No. 14-1239, 14-1242, 14-1243

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

E.DIGITAL CORPORATION,
Plaintiff-Appellant,
v.
ZTE CORPORATION, ZTE (USA) INC., PANTECH WIRELESS, INC., AKA PANTECH NORTH AMERICA, PANTECH CO. LTD., AND WOODMAN LABS, INC., DBA GOPRO,

Defendants-Appellees.

APPEALS FROM THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF CALIFORNIA IN CASES: NO. 3:13-CV-00782-DMS-WVG, NO. 3:13-CV-00023-DMS-WVG, AND, NO. 3:12-CV-02899-DMS-WVG THE HONORABLE JUDGE DANA M. SABRAW

CORRECTED PRINCIPAL BRIEF FOR PLAINTIFF-APPELLANT E.DIGITAL CORPORATION

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April 24, 2014

CERTIFICATE OF INTEREST
(Fed. Cir. R. 47.4)

Counsel for Plaintiff-Appellant e.Digital Corporation certifies the following:

The full name of every party or amicus represented by me is: e.Digital Corporation.

e.Digital Corporation is the real party in interest.

No parent company owns e.Digital Corporation and no publicly held company owns 10 percent or more of the stock of e.Digital Corporation.

The names of all law firms and the partners or associates that appeared for e.Digital Corporation in the District Court or are expected to appear in this Court are:

Anton N. Handal, Pamela C. Chalk and Gabriel G. Hedrick, all of Handal & Associates.

Respectfully submitted,

HANDAL & ASSOCIATES

Dated: April 24, 2014 By: /s/Pamela C. Chalk
Pamela C. Chalk
Counsel for Plaintiff-Appellant
e.Digital Corporation

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(Fed. Cir. R. 47.5)

The underlying cases were separately filed in the Federal District Court in and for the Southern District of California. The cases were not joined or otherwise consolidated for trial under 35 U.S.C.§ 299. However, this Court has consolidated e.Digital's appeals of the underlying cases and has deemed Case No. 2014-1019 (the "-1019 Appeal" or "Huawei Appeal") a companion case.

Respectfully submitted,

HANDAL & ASSOCIATES

Dated: April 24, 2014 By: /s/Pamela C. Chalk
Counsel for Plaintiff-Appellant
e.Digital Corporation

I. STATEMENT OF JURISDICTION

The District Court's jurisdiction was premised on 28 U.S.C. § 1338(a). On August 21, 2013, the District Court entered separate but identical orders to apply collateral estoppel as to the construction of certain terms contained U.S. Patent Nos. 5,491,774 ("the '774 patent") and 5,839,108 ("the '108 patent"). (A156-A167; A184-A203) Thereafter, e.Digital separately negotiated stipulations with each of the Appellees resulting in the entry of a non-final judgment of non-infringement as to the '774 and '108 patents. (A1009-A1017; A1019-A1023; A1205-A1034). The District Court subsequently entered orders granting joint motions on said stipulations. (A1018; A1024, 1035-A1036).

Following commencement of the Huawei Appeal, Apple, Inc. (currently a settled and dismissed party in one of the underlying related e.Digital cases) filed a motion to amend its non-final judgment to convert it to a final judgment pursuant to FRCP 54(b). (A1037-A1059). The only Appellee to join Apple's motion was Woodman Labs ("GoPro"). (A1335-A1339). The District Court granted Apple's motion to amend on January 7, 2014. (A10-A36). ZTE and Pantech did not join in Apple's motion to amend or move on their own to amend the status of their own non-final judgments (*see,* A1275; A1280-A1282), but the District Court extended its order to those Defendants as well, making all of the Appellee's Judgments final pursuant to FRCP 54(b). (A1-A9 (Amended Judgments); A10-A36 (Orders)).

The previously, stipulated judgments were amended by the Court on January 7, 2014, and timely Notices of Appeal were filed in each case on or about January 13, 2014. The jurisdiction of this Court is premised on 28 U.S.C. § 1295(a)(1).

Jurisdiction is challenged inasmuch as the order granting amendment of the non-final, stipulated judgments to convert them to judgments subject to FRCP 54(b) was in error. A reversal of the order granting said amendments would revert the Judgments at issue to non-appealable orders and devoid this Court of further jurisdiction over the matter.

Under the rule of law as set forth in *Spraytex*, 96 F.3d, 1377, 1379 (Fed.Cir. 1996), a district court's determination whether a judgment is final with respect to one or more claims, is reviewed *de novo* while the determination that there was no just reason for delay is reviewed under an abuse of discretion standard. *W.L. Gore & Assocs., Inc. v. International Medical Prosthetics Research Assocs., Inc.*, 975 F.2d 858, 862 24 USPQ2d 1195 (Fed.Cir.1992) 24 USPQ2d at 1198; *see also, Houston Indus., Inc. v. United States*, 78 F.3d 564, 567 (Fed.Cir.1996).

II. STATEMENT OF ISSUES FOR REVIEW

1. Whether the District Court erred in granting the Defendant/Appellees' motion to apply collateral estoppel with respect to certain terms contained in U.S. Patent No. 5,839,108 ("the '108 patent").

2. Whether the District Court erred in granting the Defendant/Appellees' motion to apply collateral estoppel with respect to certain terms contained in U.S. Patent No. 5,491,774 ("the '774 patent").

3. Whether the District Court erred in extending its order granting GoPro's motion to amend its stipulated non-final judgment and whether Appellees Pantech and ZTE are entitled to relief inasmuch as they did not ask for relief.

It should be noted that e.Digital is not pursuing any relief herein with respect to the District Court's order granting the Appellees' motion to stay the underlying litigation. (A10-A18).

III. STATEMENT OF THE CASE

This appeal was taken after the Southern District of California (the "District Court" or "San Diego District Court") entered final judgments of non-infringement of the '774 patent and '108 patent in favor of Defendants-Appellees. (A1-A9). The District Court found that Plaintiff-Appellant e.Digital Corporation ("e.Digital") was collaterally estopped from asserting any construction of a phrase

contained in the '774 patent different from that determined by the District Court in *e.Digital Corp. v. Pentax of Am.*, U.S. District Court, D.Colo., Case No. 09-cv-2578-MSK-MJW (the "Colorado Case" or "Colorado District Court"). (A48-A80). The San Diego District Court erroneously went on to conclude that e.Digital should be collaterally estopped from asserting a different construction of the same claim term from the '108 patent, despite the fact the '108 patent was not asserted in the Colorado Case, was not the subject of a Markman proceeding, and is not a parent of or a continuation of the '774 patent. (*Id.*)

The parties thereafter entered into separately negotiated stipulations for non-final judgment of non-infringement of the asserted claims of the '774 patent and '108 patent as a result of the District Court's order applying collateral estoppel doctrine. (A37-A43; A1009-A1036). After final settlement was reached in the *e.Digital v. Futurewei Technologies, Inc, et al.* case, Federal Circuit Case Number 14-1019, Southern District of California Court Case Number 3:13:CV-00783 (the "Huawei Appeal"), an appeal was taken of the San Diego District Court's Order applying collateral estoppel. Taking note of the Huawei Appeal, Apple filed a motion seeking to convert its negotiated non-final judgment into a final judgment pursuant to FRCP 54(b). (A1037-A1059). Before its motion to amend was heard Apple settled with e.Digital and its e.Digital case was dismissed with prejudice. (*See,* A1820:15-13). Appellee, GoPro, however, had joined Apple's motion, so the

motion survived as to GoPro. (A1335-A1339; A1794:17-25). None of the other Appellees in the instant appeal joined in the motion to amend the stipulated judgments in their respective cases. (*See,* A97-A121;A1275; A1280-A1282, A1796, Lines 15-20).

On January 7, 2014, following briefing and oral argument, the District Court granted the motion to amend GoPro's judgment (A10-A36) as to GoPro and all the other remaining, non-moving defendants. It did so notwithstanding the fact that these defendants to include Appellees ZTE and Pantech they did not originally move or join in the motion to amend their own non-final, stipulated judgments. The Court thereafter converted these other non-final judgments into final judgments pursuant to FRCP 54(b). (A10-A36). This appeal followed.

IV. STATEMENT OF THE FACTS

A. Introduction

The San Diego District Court found that e.Digital is collaterally estopped from re-litigating certain claim constructions made by the Hon. Judge Marcia Krieger ("Judge Krieger") in *e.Digital Corp. v. Pentax of America, Inc.*, Case No. 09-cv-2578-MSK-MJW (D.Col.) (alternately referred to hereafter as the "Colorado Case" or *Pentax*) with respect to Claim 1 of the '774 patent. The Disputed Term also appears in the '108 patent. However, as argued below, it is of great

significance that the '108 patent was not asserted in the Colorado Case and the Colorado District Court was not asked to and did not construe any terms therefrom.

The '774 and '108 patents generally relate to recording and playing back of messages on a handheld device utilizing flash memory. Appellees make and sell devices that are alleged to infringe independent Claim 33 and dependent Claims 2, 10, 15 and 23 of the '774 patent (as to all Appellees) and independent Claim 2 (as to Pantech and ZTE only); and, dependent Claim 3 (as to Pantech only) of the '108 patent.

B. The '774 Patent

The '774 patent was issued on February 13, 1996 following an application made in April 1994. At that time the typical manner of electronically recording audio was to store received electronic audio signals to a physically moving analog recording medium such as cassette tape or vinyl or digital media such as laser disks. (A254, Col. 1:17-38.)

While handheld recorders existed at the time of the invention of the '774 patent, those devices continued to rely on power-consuming, moving media such as cassette tape and compact disc. (Id., Col. 1:53-67.) While there had been some experimentation with fixed, non-moving media in handheld recorders *via* non-volatile, analog memory storage such as EEPROM, such devices were problematic

in terms of their limited storage capabilities and inability to remove and exchange media as one might with a cassette tape or CD. (Id., Col. 2:1-38.)

The ’774 patent and its child patents solved many of the problems of the prior art. Among other things, these patents teach a handheld digital recording device with a removable, interchangeable, compact, non-volatile flash memory that is capable of offering recording and playback lengths similar to cassette tape or CD (unlike, e.g., the prior art devices utilizing analog EEPROM with limited storage capability), without power-draining moving parts (such as required by cassette tape, CD or vinyl). (Id., Col. 2:41-59, Claims 33, 2, 10.) The ’774 patent further discloses enhancing the operational control and power efficiency of a handheld device by disclosing, among other things, the selective enabling and disabling of component parts, such as the microphone, speaker and removable flash receiving socket in between uses. (Id., Col. 2:59-62, Claims 33, 15, 23.)

1. Assertion of The ’774 Patent in the Colorado Case.

Independent claims 1 and 19 of the ’774 patent were asserted in the Colorado Case (*see, e.g.,* A585, A861) and each contained the phrase “**a flash memory module which operates as sole memory of the received processed sound electrical signals**” (the “Disputed Term”) (*see,* A528-A529, A585 Footnote 3), which the Colorado District Court was asked to and did construe at a *Markman* hearing. (A585 Footnote 3). Concurrently, claims 1 and 19 of the ’774 were also

the subject of a separate *ex parte* reexamination before the United States Patent and Trademark Office ("PTO").

The Colorado District Court's Markman Order construing the Disputed Term was issued before the completion of the reexamination proceedings. (A583-A598). The PTO later canceled independent claims 1 and 19 and allowed the issuance of new independent Claims 33 and 34, which, on their face, are substantially different from the cancelled claims 1 and 19. (A333-A335).

2. Assertion of The '774 Patent in the San Diego Case

e.Digital asserted the new independent Claim 33 and dependent Claims 2, 10, 15, and 23 against the Appellees. (A212 (Pantech), A286 (ZTE), and A391 (GoPro)). Claims 1 and 19 had been cancelled, and were not and could not be asserted in the present cases. (A333-A335).

C. The '108 Patent

The '108 patent is a continuation-in-part of e.Digital's U.S. Patent No. 5,787,445 ("the '445 patent"). (A337.) While the specifications of the '108 patent contain several references to the '774 patent as an example of prior art (*see, e.g.* A342-A343), neither the '108 patent nor its parent, U.S. Patent No. 5,787,445 ("the '445 patent"), are continuations of the '774 patent. (A337). Accordingly, they do not share the same prosecution history.

1. The '108 Patent was not asserted in the Colorado Case

The '108 patent was not asserted in the Colorado case and was not subject to any previous claim construction proceedings or reexaminations. As such, there has never been a judicial construction of the terms of the '108 patent.

2. Assertion of The '108 Patent in the San Diego Case

Claim 2 of the '108 patent was asserted against ZTE (A288) and Pantech (A208). Claim 2 discloses a handheld recording device using two microphones, one of which is reserved for noise-cancellation. (A228). Claim 2, however, contains the Disputed Term that was construed in the Colorado Case, i.e.; **"a flash memory module which operates as sole memory of the received processed sound electrical signals**." (*Id.*) Claim 3, relating to a barcode reader, is asserted against Pantech (A208) and depends upon Claim 2. (*Id.*)

D. The Colorado Claim Construction Proceedings

The parties in the Colorado Case proposed competing constructions for a number of terms appearing in Claims 1 and 19 of the '774 patent. The term in controversy involved the disputed construction of the broader claim term "**a flash memory module which operates as sole memory of the received processed sound electrical signals and is capable of retaining recorded digital information for storage in nonvolatile form**."

The disputed constructions are set forth in the chart below:

e.Digital's Proposed Construction	Colorado Defendants' Proposed Construction

"a removable, interchangeable flash memory storage device that (1) is the only removable memory storage device that receives for storage the processed sound electrical signals, and (2) is capable of retaining for storage digital information without the need for ongoing power support."	(1) flash memory module: "a removable, interchangeable flash memory recording medium" and (2) sole memory of the received processed sound electrical signals: "the only memory of the received processed sound electrical signals, without another memory system such as RAM"

(*See,* A274, A280.) (Emphasis added.)

Judge Krieger conducted a *Markman* hearing on January 28, 2011 and in connection therewith accepted briefing and oral argument related to a number of claim terms including the Disputed Term identified above. (A583-A598).

On June 28, 2011 Judge Krieger issued an order (A583-A598) concluding that the parties' dispute turned on the interpretation of the phrase "**received processed sound…signals**" and "partially-processed data (in which case, alternative memory structures such as RAM could not be used during data-handling operation), or whether it referred only to fully-processed data (in which case, RAM could be used by the device during processing)." (A591-A592) (emphasis in original.) Looking to the original prosecution history (pre-reexamination) of the '774 patent, the Colorado Court ruled, "the phrase 'received processed sound electrical signals' must refer to, at most, the output of the differential amplifier and gain control circuits, after which the sound signals have been 'processed.'" (A593).

Using the existing prosecution history that did not contain the yet to be created reexamination history the Court found:

> "[t]he phrase 'received processed sound signals' refers to the electrical signals that have been generated by the microphone and passed through the amplifier and gain control circuits, but have yet to be converted by the CODEC."

(*Id.* at A598).

Applying the "sole memory" language to this construction, Judge Krieger found:

> "The remainder of the disputed language requires that the device use only flash memory, not RAM or any other memory system, while engaging the CODEC, DSP (as applicable), and memory control functions, as well as storing the fully-manipulated data."

(*Id.*)

e.Digital argued that RAM, though not expressly identified in the claims or the prosecution history, was implicitly present in the invention. Addressing e.Digital's argument, the Colorado Court stated in part:

> The Plaintiff argues that this conclusion is misplaced for two major reasons. First, he [*sic*] contends that any person skilled in the art would implicitly understand, based on the computational tasks performed by the device, that RAM would be required: as Mr. Norris put it, "by the fact that there's DSP in there and other functionality, [like a] microprocessor, it's obvious to anyone with freshman knowledge of electronics, you've got RAM." In other words, the Plaintiff's position is that RAM is an indispensable component of a device engaging in these types of microprocessor-based computations, and that specifically referencing the presence of RAM in the patent would be superfluous. However, the unrebutted evidence received from Mr. Mihran at the *Markman* hearing indicated that certain types

> of flash memory – including the type specifically identified in the '774 patent – could be directly addressed by the microprocessor in the same way that RAM could, such that one could replace that RAM with the appropriate flash memory. **Thus, a person skilled in the art and reading the '774 patent might initially be confused by the device's apparent abandonment of commonly-used RAM in support of microprocessor operations**, but that same reader would then review the characteristics of the flash memory recited in the patent and realize that that flash memory could be addressed by the microprocessor in the same manner as ordinary RAM. Thus, the mere fact that the types of data-handling operations disclosed in the '774 patent would lead one skilled in the art to assume the presence of RAM does not render the patent's clear disclaimer of RAM to be misleading, as the patent clearly discloses the presence of a functional RAM-alternative.

(A596-A597) (emphasis added).

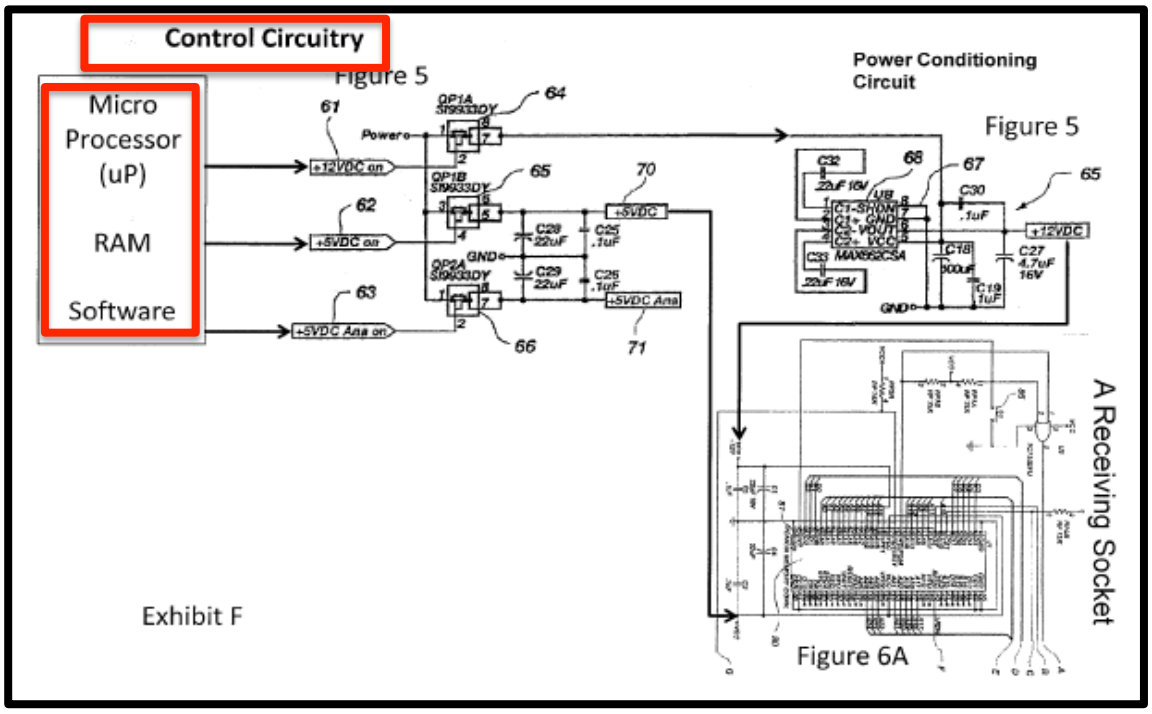
Following the *Markman* Order, e.Digital settled the case with the remaining Colorado Defendants and the Colorado Court granted joint motions to dismiss, but did not approve any settlements. The Colorado Court did not enter any final judgment or make any determination as to validity, infringement or claim construction of any other terms of the patents. The Colorado Case was closed on or about October 26, 2011.

E. Reexamination of the '774 Patent

A request for reexamination of certain claims of the '774 patent, including independent claims 1 and 19 (which were in asserted in the Colorado Case) was filed with the USPTO on October 27, 2010. The PTO issued its first Office Action

in the reexamination on September 20, 2011, nearly 3 months after entry of the Colorado Claim Construction Order. (A727).

Subsequent communications between the PTO and e.Digital's counsel ensued. Ultimately, the two independent claims, 1 and 19 of the '774 patent, were cancelled and new claims 33 and 34 issued. (*Id.*) In the course of the



reexamination, new prosecution history was developed pertaining to the presence and use of RAM as part of the invention (the precise issue that Judge Krieger addressed in her *Markman* Order). e.Digital submitted several figures to the PTO representing the invention demonstrating that RAM is a component of the control circuitry disclosed in the independent claims of the '774 patent. (A740, A744-A756). As noted above, that the use of RAM was an issue litigated before the Colorado Court. One of the figures presented in re-exam specifically addresses the

use of RAM as shown below. (A752). It is important to highlight that this new figure and prosecution history would have been something that Judge Krieger would have been required to consider had it been available at the time of the Colorado claim construction proceedings. This new prosecution history would have also undoubtedly been the subject of further briefing and expert commentary. The undeniable fact is that this prosecution history was not litigated in Colorado as it would have to be if the San Diego District Court were to hold a *Markman* hearing.

On August 14, 2012 (more than a year after issuance of Judge Krieger's *Markman* Order and almost a year after the Colorado case was closed), the United States Patent and Trademark Office issued a Reexamination Certificate for the '774 patent, canceling the claims that Judge Krieger construed and adding new independent claims 33 and 34 together with several new dependent claims. (A333-A335).

In its statement of reasons for patentability and/or confirmation, the examiner stated:

> Regarding independent claims 33 and 34, each requires, *inter alia,* the uniquely distinct features: **control circuitry includes a microprocessor** (21) coupled to switch circuitry, which includes multiple transistors (MOSFETs 64, 65, and 66, and QP2B) configured to enable supply of electrical power to the receiving socket (30) and to enable or disable at least one of the microphone element (20) and the speaker (36) during record and playback functional operations and in

response to control signals provided by the microprocessor, see Figures 1 and 4-6…"

(Emphasis added.) (A762).

New claims 33 and 34, not only were the product of new prosecution history, they were issued with language and limitations that were not present in the canceled claims 1 and 19. The literal differences between canceled claim 1 and new claim 33 are shown in the chart below:

Claim 1 (Before Reexamination/Before Cancellation) (Defendants' Exhibit 1, Claim 1)	**New Claim 33 (Added After Reexamination) (Exhibit 3 to Hedrick Decl., Claim 33)**
A record/playback device for use with a……	A record/playback device for use with a ……..
control circuitry coupled to the microphone element and including signal input circuitry, amplification circuitry, analog-to-digital conversion circuitry, memory control circuitry, signal output circuitry and control logic circuitry for performing record and playback functional operations with respect to the electrical signals and other regulated components of the record/playback device;	control circuitry coupled to the microphone element and including signal input circuitry, amplification circuitry, analog-to-digital conversion circuitry, memory control circuitry, signal output circuitry and control logic circuitry, **which includes a microprocessor coupled to switch circuitry**, for performing record and playback functional operations with respect to the electrical signals and other regulated components of the record/ playback device;
……	…….
[No language]	**wherein the power source is coupled to**

	the switch circuitry; and
[No language]	**wherein the switch circuitry includes multiple transistors** **configured, to enable supply of electrical power to the receiving socket and to enable at least one of the microphone element and the speaker during record and playback functional operations and in response to control signals provided by the microprocessor, and to optionally disable supply of electrical power to the receiving socket and to optionally enable supply of electrical power to at least one of the microphone element and the speaker between occurrences of record and playback functional operations and in response to control signals provided by the microprocessor.**

F. The Proceedings Before The San Diego District Court

Appellant-Plaintiff e.Digital filed complaints against Appellees GoPro on December 6, 2012 (A122-A143); Pantech on January 4, 2013 (A144-A203); and ZTE on April 2, 2013 (A279-A367).

On May 29, 2013, the District Court held a Case Management Conference in the underlying cases (A368-A385) wherein the Appellees indicated a desire to file a motion to apply collateral estoppel in connection with the proceedings in Colorado. (A370 at ¶ 6.)

To resolve the issue early, the District Court ordered the defendants to jointly file the motion as an omnibus memorandum of points and authorities and

reply. (*Id.*) Appellees each filed separate collateral estoppel motions incorporating an omnibus memorandum of points and authorities filed in Case No. 13-cv-356-DMS-WVG (the "356 Case" or "JVC Case"). (*See, e.g.,* A483-A485-A489). They later also joined in the reply filed therein. (A793-A800).

After a full briefing and a hearing, the District Court entered an order granting the application of collateral estoppel as to the Disputed Term. (*See, e.g.,* A48-A58). In light of the Court's order, e.Digital separately negotiated and entered into stipulations for entry of non-final judgment of non-infringement of the '774 and '108 patents. (A37-A47). After the Huawei Case was resolved and an appeal filed, former Defendant Apple filed a motion to convert its non-final judgment to a final partial judgment subject to appeal. (A1037-A104). Defendant GoPro joined that motion. (A1335-A1339). Each of the Appellees filed joinders in the motions to stay the District Court litigation pending the Huawei Appeal. (A1275; A1280-A1282; A1342-A1344). The motions were granted and the Court entered amended judgments in each of Appellees cases, including those that did not move to have their judgments amended. (A10-A36). This appeal followed.

V. SUMMARY OF THE ARGUMENT

In their respective motions to apply collateral estoppel ("Motion"), Appellees argued that Plaintiff, e.Digital Corporation ("Plaintiff" or "e.Digital"), is collaterally estopped from re-litigating certain claim constructions entered by the

Hon. Judge Marcia Krieger in *e.Digital Corp. v. Pentax of America, Inc.*, Case No. 09-cv-2578-MSK-MJW (D.Col.) (alternately referred to hereafter as the "Colorado Case" or *Pentax*) with respect to the '774 patent.

Further, Appellees sought to extend and apply the collateral estoppel doctrine to the '108 patent as to similar terminology contained in that patent notwithstanding the fact that the '108 patent was not asserted in the Colorado Case, is not a continuation of the '774 patent, and was not construed in the Colorado Case by Judge Krieger.

Application of the collateral estoppel doctrine is not appropriate for a number of reasons, not the least of which is that there exists additional reexamination history and new claim language that was not considered by the Court in the Colorado Case.

Moreover, collateral estoppel is not applicable to the '108 patent because it was never litigated in the Colorado case, does not share common ancestry with the '774 patent, and includes express intrinsic evidence that precludes application of the Colorado Court's claim construction rulings as to the unrelated '774 patent. Accordingly, e.Digital respectfully requests that this Court reverse the findings of the District Court with respect to the issue of collateral estoppel.

In addition, ZTE and Pantech did not move the Court for an order amending the non-final judgment entered in their respective cases. (A1274-A1275; 1280-

A1282; A1824, A1839:16-25; A1840:1). As such, it is unclear on what basis the Court had jurisdiction to extend its order granting the motion to amend as to ZTE and Pantech given that they did not join in the motion. Also it does not appear that the District Court properly concluded that the stipulated partial judgments entered in the cases, had met the ultimate disposition standard for application of FRCP Rule 54(b) and as such this Court may not have adequate jurisdiction over this appeal.

VI. STANDARD OF REVIEW

A District Court's application of collateral estoppel is reviewed *de novo*. *Pharmacia & Upjohn Co. v. Mylan Pharmaceuticals, Inc.*, 170 F.3d 1373, 1376 (Fed. Cir. 1999). Because the application of collateral estoppel is not a matter within the exclusive jurisdiction of the Federal Circuit, the Court must apply the law of the circuit in which the district court sits, in this case, the Ninth Circuit. *Vardon Golf Co., Inc. v. Karsten Manufacturing Corp.*, 294 F.3d 1330, 1333 (Fed. Cir. 2002). However, "for any aspects that may have special or unique application to patent cases, Federal Circuit precedent is applicable. *Aspex Eyewear, Inc. v. Zenni Optical Inc.*, 713 F.3d 1377, 1380 (Fed. Cir. 2013). In particular, Federal Circuit law applies when determining whether a reexamination materially changed the claims at issue in subsequent litigation. *Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335, 1340-1341 (Fed. Cir. 2012).

Under Ninth Circuit law, collateral estoppel applies only if *all* of the following conditions are met: "(1) there was a full and fair opportunity to litigate the issue in the previous action; (2) the issue was actually litigated in that action; (3) the issue was lost as a result of a final judgment in that action; and (4) the person against whom collateral estoppel is asserted in the present action was a party or in privity with a party in the previous action." *Kendall v. Visa USA, Inc.,* 518 F.3d 1042, 1050 (9th Cir. 2008) *quoting*, *United States Internal Revenue Serv. v. Palmer (In re Palmer),* 207 F.3d 566, 568 (9th Cir. 2000).

The party asserting collateral estoppel has the burden to show that the pending issue is **identical** to an issue actually litigated and decided in the previous action. *Pool Water Prods. v. Olin Corp*., 258 F.3d 1024, 1031 (9th Cir. 2001); *see also Hydranautics v. FilmTec Corp.*, 204 F.3d 880, 885 (9^{th} Cir. 2000). If there is any doubt that the issues are identical, collateral estoppel will not be applied. *Davis & Cox v. Summa Corp.,* 751 F.2d 1507, 1518 (9th Cir. 1985); *Harris v. Jacobs*, 621 F.2d 341, 343 (9th Cir. 1980) ("A party asserting the defense of collateral estoppel has the burden of showing that the issue for which an estoppel is claimed was actually adjudicated in a prior proceeding. If there is doubt on this score, collateral estoppel will not be applied").

Also, assuming *arguendo* that *Spraytex*, a pre-AIA case, applies, then, per the holding in *Spraytex*, a district court's determination as to whether a judgment is

final with respect to one or more claims, so as to permit certification under FRCP 54(b), is reviewed *de novo*. *Id.* However, per *Spraytex,* the determination that there was "no just reason for delay" is reviewed under an abuse of discretion standard. *Id*. At 862, 24 USPQ2d at 1198; *see also, Houston Indus., Inc. v. United States,* 78 F.3d 564, 567 (Fed.Cir.1996).

VII. ARGUMENT

A. Collateral Estoppel Cannot Be Applied To The '108 Patent Because It Was Not Asserted In Colorado And The Intrinsic Evidence Substantially Differs From The '774 Patent

1. The '108 Patent Was Not Fully, Fairly And Actually Litigated In The Colorado Case

In evaluating the application of collateral estoppel, courts may refer to the Restatement (Second) of Judgments. *Foster v. Hallco Manuf. Co., Inc.*, 947 F.2d 469, 480 (Fed.Cir.1991); *Kamilche Co. v. United States*, 53 F.3d 1059, 1062 (9th Cir.1995). The Restatement identifies four factors to be considered in determining whether an issue in a successive proceeding is identical to an issue previously litigated: (1) is there a substantial overlap between the evidence or argument to be advanced in the second proceeding and that advanced in the first; (2) does the new evidence or argument involve the application of the same rule of law as that involved in the prior proceeding; (3) could the pretrial preparation and discovery related to the matter presented in the first action reasonably be expected to have embraced the matter sought to be presented in the second; and (4) how closely

related are the claims involved in the two proceedings. *Kamilche*, 53 F.3d at 1062; *see also Applied Med. Res. Corp. v. U.S. Surgical Corp*., 352 F.Supp.2d 1119, 1124–25 (C.D.Cal. 2005). (emphasis added).

Collateral estoppel as to the '108 patent cannot lie for the pure and simple reason that the '108 was not in issue in the Colorado Case. Collateral estoppel cannot be applied to preclude a subsequent patent infringement actions based upon patents that were not at issue in a prior lawsuit. *See, e.g.,* 35 U.S.C.A. § 121; 37 C.F.R. § 1.141.

The law is clear that, like here, there is no issue preclusion where asserted claims were not previously construed in a prior case. *Brain Life, LLC v. Elekta Inc.*, Docket No. 2013-1239, 2014 U.S. App. LEXIS 5390. *20-*21 (Fed. Cir., March 24, 2014).

The Federal Circuit was also clear in *Kearns v. Gen. Motors Corp.,* 94 F.3d 1553, 1555-1557 (Fed. Cir. 1996) holding that it is not possible to show that identical issues were presented in patents that were not both before a prior Court because each patent, by law, covers an independent and distinct invention.

The Federal Circuit Court of Appeal also held in *Monsanto Co. v. Bayer Bioscience N.V*., 363 F.3d 1235, 1244, 70 U.S.P.Q.2d (BNA) 1257, 1264 (Fed. Cir. 2004) that collateral estoppel does even not apply as to different, but related, patents when the claims, specifications and prosecution history, of the asserted

patents are different from in the two proceedings since the issues would not be identical. Similarly, in *Monolithic Power Systems, Inc. v. O2 Micro Intern. Ltd*., 2010 Markman 583960, 2010 WL 583960, *7 (N.D. Cal. 2010), the Court held that it is inappropriate to grant an accused infringer's motion for a summary judgment of invalidity based on issue preclusion finding when the identical issue was not presented in the prior case where the asserted claims in the later suit posed different limitations than the claims found invalid in the prior suit.

The rationale behind these precedents is that separate patents are presumed by law to cover independent and distinct inventions. Indeed, issue preclusion may not lie even where claims of the *same* patent were previously asserted though not actually litigated in a case such as in *Brain Life, LLC v. Elekta Inc.*, *supra*, 2014 U.S. App. LEXIS 5390.

In that recent Federal Circuit case, plaintiff Brain Life's predecessor-in-interest, MIDCO, alleged in the prior litigation that Elekta infringed claims of its U.S. Patent No. 5,398,684 ("the '684 patent"). *Id.* at *5. As the case proceeded, MIDCO focused on the apparatus claim rather than the method claim. *Id.* The parties requested claim construction of terms from the apparatus, but not the method claim. *Id.* Defendant Elekta ultimately moved to dismiss the method claim prior to trial and the Court granted Elekta's unopposed motion without prejudice. *Id.* An attempt by MIDCO to revive the method claims of its asserted

patent after a judgment of infringement against Elekta was reversed as unsuccessful. *Id.* at *6-7.

Several years later, MIDCO licensed the ’684 patent to a third party, who in turn licensed the patent to plaintiff Brain Life. *Id.* at *7. Brain Life filed suit against a number of defendants, including Elekta, alleging infringement of the method claims of the ’684 patent. *Id.* After discovery, Elekta moved for dismissal on *res judicata* and collateral estoppel grounds and for summary judgment on its *res judicata* defense. *Id.* at *8. The district court initially granted summary judgment, finding that Brain Life’s claims were barred because the accused products were essentially identical to those accused in the earlier litigation and MIDCO had an opportunity but chose not to litigate the method claims. *Id.* at *9-10. Brain Life appealed.

In addressing whether issue preclusion barred Brain Life’s assertion of the method claims of the ’684 patent against Elekta, the Federal Circuit found that preclusion did not lie as to the method claims notwithstanding that they were asserted in the prior case. This Court held: “it is evident that [the method] claims were not fully, fairly, and actually litigated to finality” in the prior litigation. *Id.* at *20-21.

The Federal Circuit pointed out that in the earlier case, neither party requested construction of any terms of the method claims from the ’684 patent.

Also, neither party moved for summary judgment regarding infringement, validity or enforceability of the method claims. *Id.* at *21. Accordingly the Court held that issue preclusion did not bar Brain Life's claims notwithstanding the fact that the claims being asserted in the new case came from the ***very same patent*** at issue in the prior litigation.[1] *Id.* at *21-22.

The '108 patent was not litigated in the Colorado case. This undisputed fact, in and of itself, defeats any argument that the District Court correctly applied collateral estoppel to the '108 patent. *See, Kearns v. Gen. Motors Corp.,* 94 F.3d 1553, 1555-1557(Fed. Cir. 1996). No prior judicial rulings of any kind were made with respect to the '108 patent and no judgments with respect to infringement, validity or enforceability were entered in the Colorado case. Thus, per the rationale of *Brain Life*, collateral estoppel cannot apply to bar e.Digital's '108 patent claims below.

Given how drastic the remedy of preclusion is, if there is any doubt as to whether an issue was actually decided in the Colorado action, preclusion should not apply in the subsequent San Diego Case. *See, e.g., Id.* at 1556-1557; *Mayer/BerkshireCorp. v. Berkshire Fashions, Inc.*, 424 F.3d 1229, 1234 (Fed. Cir.

[1] The Federal Circuit ultimately affirmed the district court's entry of judgment in favor of Elekta on alternative grounds that have not been asserted by Appellees here and are otherwise not applicable to the facts of this appeal.

2005); *Eureka Fed. Sav. & Loan Ass'n v. Am. Cas. Co.*, 873 F.2d 229, 233 (9th Cir. 1989).

Tangentially, the Appellees rely on the Restatement of Judgments, for the proposition that collateral estoppel should apply because pretrial preparation and discovery related to the matters presented in the Colorado action could reasonably be expected to be embraced in the San Diego action. Their position is not only factually incorrect, they have failed to provide evidence to support a conclusion that any of the pretrial preparation or discovery in the Colorado case would have been reasonably expected to embrace litigation of the '108 patent. (A490-A510; A801-A814). This is particularly true in light of the fact that the '108 was not asserted against any of the products of the Defendants in the Colorado Case. Contrary to what the Appellees argued to the District Court, it is of no consequence that the '108 patent refers to the '774 patent as an example of the prior art. (*See, e.g.* A342-A343). The mere reference to the '774 patent as prior art is not enough, particularly in light of the Court's holding in *Brain Life* noted above, to support the conclusion that collateral estoppel should apply.

Contrary to what the Appellees argued and the District Court found, *Tech Licensing Corp. v. Thomson, Inc.,* Case No. 2:03-cv-1329 WNS PAN 2010 US. Distr. LEXIS 21735, *16-22 (E.D. Cal. March 9, 2010) does not support the conclusion that collateral estoppel should apply to the facts of this case. *Tech*

Licensing Corp. is distinguishable for many reasons to include the fact that it is a claim construction decision. Thus, unlike the District Court in this matter, the Court in *Tech Licensing Corp.* ***<u>conducted an extensive claim construction hearing</u>*** allowing for a full presentation of evidence and argument on the reissued patents and the claim terms at issue prior to a ruling on the collateral estoppel issue. *Id.* at *3. This fact in and of itself distinguishes that case from this one.

Further, unlike the patents in *Tech Licensing Corp*. the ones presented below are distinct inventions and the ’108 patent is not a child (i.e., not a continuation) of the ’774 patent. More importantly, the prosecution history of the ’108 patent does not contain the language relied upon by Judge Krieger to support her construction the “sole memory…” language of the ’774 patent.

For these reasons, the Court should reverse the San Diego District Court’s order applying collateral estoppel to the ‘108 patent.

2. The ’108 Patent Clearly Discloses The Presence Of RAM As Part Of The Invention Which Is At Odds With Judge Krieger’s Findings As To The ‘774 Patent.

The specifications of the ’108 patent, contrary to Judge Krieger’s analysis of the ‘774, specifically disclose the presence of RAM, which is coupled to at least the DSP and the memory port for coupling the device to removable flash memory, in a preferred embodiment.[2] (*See,* A340-A342; A343 at Col. 4, ll. 24-33; A344 at

[2] Interestingly, Defendants/Appellees argued in the Court below that the “**<u>sole</u>**

Col. 6, ll. 62-67; A345 at Col. 8, ll. 46-51.) Furthermore, in the Colorado Case, the Court placed special emphasis on the fact that, in the prosecution of the '774 patent, the patentee distinguished its invention from prior art by asserting that the invention of the '774 patent utilized the removable flash memory module as "main memory," which the Colorado Court equated with RAM. (A595-A598) No such finding can possibly be made with respect to the '108 patent since the specifications do refer to the removable flash memory as "the main system memory." (A345 at Col. 8, ll. 34-36.) One cannot possibly read the '108 patent and conclude that the "received processed sound electrical signals" of claim 2 of the patent are processed without the aid of RAM since Figures 3 and 4 (below) clearly show that the DSP engages with SRAM as the sound signals travel from the microphone, through the CODEC and DSP and, ultimately, to the removable flash memory module as shown below:

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distinction between the inventions purportedly disclosed in the '774 patent and the '108 patent is that the invention in the '108 patent includes a second microphone that 'enables noise dampened recording of voice data and CD quality stereo recording of music data." (A499:12-15.) (emphasis added.) Yet, the specifications of the '108 patent clearly disclose the presence of RAM. At the same time, Appellees argued that the invention of the '774 patent does not include RAM. These positions cannot be reconciled.

(*See*, A340-A341)

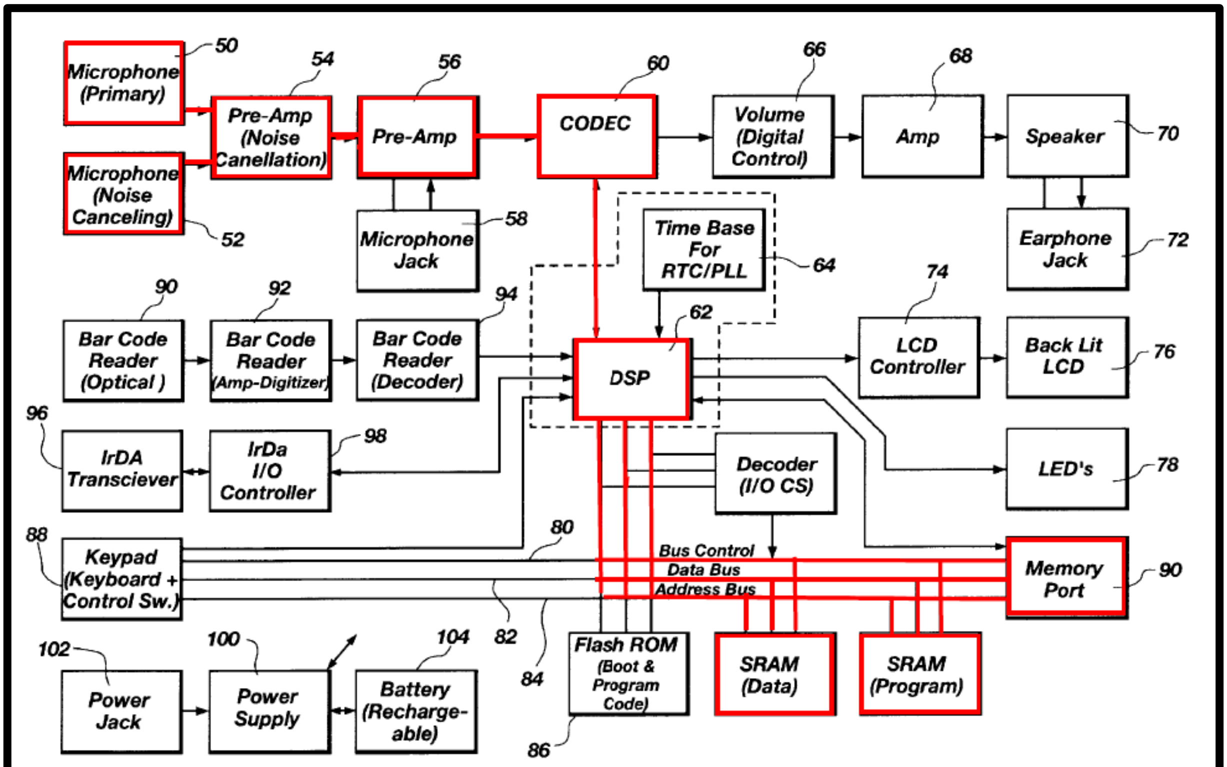


Fig. 3

It is therefore clear that the issues surrounding the construction of terms in the ’108 patent are not identical to those in the ’774 since this intrinsic evidence, which is peculiar to the ’108 patent and is not contained within the ’774 patent or its prosecution history. (*See*, *generally*, A516-560) In the final analysis, the issues concerning construction of the Disputed Term in the two patents are not identical and the Court’s application of collateral estoppel was improper.

The District Court cites to no legal authority in support of its findings on this issue. Indeed, the only cases the District Court relies on cut against its own

findings. (*See*, A53 (Order) at 6:5-10, *citing Comair Rotron, Inc. v. Nippon Densan Corp.*, 49 F.3d 1535, 1539 (Fed. Cir. 1995) (holding "separate patents describe 'separate and distinct [inventions],' … and it can not be presumed that related patents rise and fall together"); *see also Monsanto Co. v. Bayer Bioscience N.V.*, 363 F.3d 1235, 1244, 70 U.S.P.Q.2d (BNA) 1257, 1264 (Fed. Cir. 2004) (reversing summary judgment that asserted claims of patent were not infringed due to collateral estoppel effect of a prior judgment involving a different, but related, patent because the claims, specifications and prosecution history, of the asserted patents were different from the patent litigated in the prior suit, and therefore the issues were not identical).

The District Court relied heavily on the fact that the specifications of the '108 patent refer to and incorporate at various points "the materials disclosed in U.S. Pat. No. 5,491,774." (A53). However, the specifications consistently refer to the '774 patent only as an example of the prior art and as "an example of the benefits of flash memory in a portable recorder." (A342 at Col. 1, ll. 21-27; A343 at Col. 4, lls. 18-23, 45-47.) This should not amount to a wholesale adoption of the '774 patent and its prosecution history. Certainly there is no legal support therefore.

While the specifications indicate that the invention of the '108 patent is intended as an improvement over the parent application and the invention of the

'774 patent, this does not somehow transform the patent into a child of the '774 patent – most inventions are merely improvements over the prior art. (A342 at Col. 2, lls. 42-45.) Indeed, the specifications of the '108 patent consistently refer to the differences in the "voice recording … embodiments" of the '108 patent over the prior art '772 patent. (A343 at Col. 4, lls. 47-51 ("It is useful to include a portion of the description [of the '774 patent] so that the *differences* between the presently preferred embodiments and the prior art are more evident when examining FIGS. 3 and 4 of the present invention"); A344 at Col. 6, lls. 53-58 ("Having described some specific aspects of some block diagrams of the prior art, it is now meaningful to examine the improvements provided by the present invention. When looking at FIGS. 3 and 4, *one of the most important modifications is the inclusion of a specific voice recording and playback embodiment*.")). While the remainder of the discussion of the '108 patent does not discuss RAM, it is clear from the Figures, that RAM is a component of at least one preferred embodiment of the noise cancellation features of claim 2 asserted in this case. (A343 at Col. 4, lls. 24-33; A340-A341).

The District Court wrongly discounted Figures 3 and 4, which are contained in the specifications of the '108 patent, and clearly show the presence of RAM. (A54:9-10.) Such a wholesale dismissal of the Figures, which constitute a material part of the specifications, is unsupportable, particularly where the specifications

make clear that the figures are block diagrams "of the components in a presently preferred embodiment of the present invention." (A343 at Col. 4, ll. 24-34.)

The District Court also misconstrued the specifications of the '108, which is actually critiqued the prior art Ban reference. The District Court erroneously concluded that the specification "touts the benefits of using flash drive over RAM." (A11:11-12.). In fact the specification does not tout the benefits, it reads:

> **"by first reading the data out to a large random access memory (RAM), manipulating the data in RAM, erasing the flash memory where the data was originally stored, and then writing the data from RAM back to a contiguous block of flash memory." (A123 at Col. 1, ll. 58-64 and Col. 2, ll. 1-13.)**

The discussion of RAM in the specification of the '108 embraces RAM and says nothing of excluding RAM from the initial storage of received processed sound electrical signals. This reading flies in the face of the Colorado Court's construction of the use of RAM in the '774 patent.

Finally, assuming *arguendo* that the '108 patent may somehow be subject to claim constructions of similar terms found in the '774 (which e.Digital disputes), the amended claims of the '774 patent and the new reexamination history would similarly preclude application of the collateral estoppel doctrine as set forth above.

Notwithstanding the differences in the intrinsic evidence of the '774 patent and the '108 patent and the fact that the '108 patent was not involved in the Colorado case, the District Court below nonetheless applied collateral estoppel as

to the Colorado Court's construction of "a flash memory module which operates as the sole memory of the received processed sound electrical signals." While the District Court conceded that the '108 patent "does not originate in the same patent application as the '774 patent," it nevertheless applied the collateral estoppel doctrine on the mere basis that "the patents are closely related." (A53:10-26.). Such a conclusion not only flies in the face of the Federal Circuit precedents, it is unsupported by the record or evidence.

Given how drastic the remedy of applying collateral estoppel is, the party defending against collateral estoppel deserves a full and fair opportunity to put on all evidence and arguments weighing against application of the doctrine. The District Court should have first conducted a claim construction hearing to determine if the disputed terms are substantially the same or not. Having failed to do so, its order applying collateral estoppel must be reversed.

B. Collateral Estoppel Does Not Apply Since The Issues Presented In The San Diego Case With Respect To The '774 Patent Are Not Identical To Those Presented In The Colorado Case

For collateral estoppel to apply, the issues presented in the two courts must be identical. *Pool Water Products v. Olin Corporation*, 258 F.3d 1024, 1031 (9th Cir. 2001). Here, the San Diego District Court erroneously concluded that the claim construction issue before it was identical to the one presented in the Colorado Case. Based on this flawed conclusion, the San Diego District Court

held that e.Digital is collaterally estopped from asserting a different construction of the term "a flash memory module which is the sole memory of the received processed sound electrical signals."

It is undisputed that these exact words are in both former claim 1 (which was subject to construction in the Colorado Case) and new claim 33 of the '774 patent (which is asserted in the San Diego District Court case). However, more is required to sustain a collateral estoppel finding. The San Diego District Court has a duty to interpret new claim 33 in light of wholly different claim language and in light of new prosecution history. For these reasons alone, collateral estoppel cannot lie.

It is incontrovertible that claim amendments and reexamination history concerning the '774 patent were developed well after the Colorado Case was concluded. The District Court below cannot simply ignore this additional re-examination history and is, unlike the Colorado District Court, compelled to construe the Disputed Term within the context of the newly created and substantially more detailed claim 33. This presents a fundamentally different exercise than that undertaken by Judge Krieger in Colorado.

The holding in *Golden Bridge Technology Inc. v. Apple Inc., supra*, is instructive here. When faced with the same issue, the Court recognized the significance of additional prosecution history to the application of collateral

estoppel, stating:

> "The court agrees with GBT that collateral estoppel is not applicable because the issue decided by the Texas court is not identical to that being litigated in the instant cases. The '427 patent and the reexamined '267 patent were issued on April 15, 2008 and December 25, 2009, respectively, after the conclusion of the Texas litigation (including the appeal). **Neither prosecution history file was of record during that case. That additional prosecution history, before the court in the instant cases, does not necessarily mean that the scope of any disputed limitations changed. However, the court cannot simply ignore new prosecution history that was not of record in the Texas litigation**." (Emphasis added.) (*Golden Bridge Technology Inc. v. Apple Inc.,* 937 F. Supp. 2d, *supra* at 496-497.)

The same rationale was followed in a Ninth Circuit case, *Illumina, Inc. v. Complete Genomics, Inc.*, 2012 U.S. Dist. LEXIS 15628 at *21, 2012 WL 423734 (N.D.Cal., Feb. 8, 2012):

> "**Because the effect of the reexamination history was not presented in the earlier proceeding** to Judge Alsup or the Federal Circuit, **the issues are not identical**, strictly speaking, and *Illumina* would not appear to be barred by the traditional doctrine of collateral estoppel from doing so now." (Emphasis added).

Thus, the prevailing law views the existence of reexamination history that was not available in an earlier proceeding as precluding the application of the collateral estoppel doctrine in a subsequent case.

In reaching its final construction of the disputed claim terms, the Colorado Court relied primarily on the prosecution history of the '774 patent that was devoid of subsequently created reexamination history. Given the importance of prosecution history to claim construction and the significant weight given to the

'774 patent's prosecution history by Judge Krieger, the existence of this new reexamination history bears heavily on the construction of the Disputed Term.

Unlike the Colorado District Court, the San Diego District Court has to consider not only amended and different claims it must also consider them in light of a different and fuller prosecution history in construing the Disputed Term.

The Federal Circuit has noted that "[o]ne purpose of the reexamination procedure is to eliminate trial of that issue (when the claim is canceled) or to facilitate trial of that issue by providing the district court with the expert view of the USPTO (when a claim survives the reexamination proceeding)." *Gould v. Control Laser Corp.*, 705 F.2d 1340, 1342 (Fed.Cir.1983). Because an examiner can be considered one of ordinary skill in the art, his or her construction of the asserted claims carries significant weight. *St. Clair Intellectual Property Consultants, Inc. v. Canon Inc.*, 2011 WL 66166, *6; 412 Fed. Appx. 270, 276 (Fed. Cir. 2011). Accordingly, to the extent claims survive the reexamination process, the reexamination history would "facilitate trial by providing the Court with expert opinion of the USPTO and clarifying the scope of the claims." *Robert Bosch Healthcare Systems, Inc. v. ExpressMD Solutions, LLC*, 2013 WL 752474, *3, (N.D. Cal. 2013) (*quoting Target Therapeutics, Inc. v. SciMed Life Systems, Inc.*, 33 U.S.P.Q.2d 2022, 2023 (N.D.Cal. 1995); *see also In re Cygnus Telecommunications Technology, LLC Patent Litigation*, 385 F.Supp.2d 1022,

1024 (N.D.Cal. 2005) ("For those claims that survive the reexamination, this court may have a richer prosecution history upon which to base necessary claim construction determinations or reconsideration"); *ProtectConnect, Inc. v. Leviton Mfg. Co., Inc.* 2011 WL 1559762, *2 (S.D.Cal. 2011).

In addition, a Court can draw upon a patentee's statements during reexamination to assist it in claim construction. *Am. Piledriving Equip., Inc. v. Geoquip, Inc.*, 637 F.3d 1324, 1336 (Fed.Cir. 2011); *see also Krippelz v. Ford Motor Co.*, 667 F.3d 1261, 1266-67 (Fed. Cir. 2012).

Sitting alone, the fact that new intrinsic evidence and different claim language is presented preclude application of the collateral estoppel doctrine. This is because, while the Disputed Term itself may not have changed from claim 1 to claim 33, the basis and requirements for construing it have. The San Diego District Court cannot turn away from its obligation to construe the Disputed Term in light of this changed context. This is especially true in light of the fact that a full and fair hearing on the construction of the terms of claims 33 and 34 require consideration of the *entire* claim along with all of the attendant prosecution history. Undertaking this obligation requires the San Diego District Court to consider issues that were not presented in the Colorado Case and, as such, collateral estoppel as a matter of law will not lie.

Given that the relevant claims were amended and given that new prosecution history was created, the San Diego District Court is compelled to conduct its own Markman Hearing to construe the Disputed Term.

C. The San Diego District Court Inappropriately Delved Into The Reexamination History (Something That The Colorado Court Could Not Do) Outside The Scope Of A Markman Proceeding In Granting Appellees' Collateral Estoppel Motions.

Contrary to the outcome of the collateral estoppel motion, construction of the Disputed Term *was not* the subject of the collateral estoppel motion. In an apparent attempt to justify granting the motion, the San Diego District Court took a cursory look at portions of the reexamination history to apparently determine that the no new issues were presented. In going down that path, the San Diego District Court found:

> In contrast to the sole memory limitation addressed in *Pentax*, **the reexamination** before the USPTO addressed the limitation, 'power source coupled to the control circuitry for supplying electrical power to the device.' **The proceedings did not involve any discussion of memory, as is evidence form the reexamination documents submitted by the parties**… **The presence of RAM, or the requirement of flash memory as the sole memory, was not the subject of the reexamination, was not discussed with the examiner**, and was not addressed by the reexamination certificate. (emphasis added)

(A51:15-18, A52:2-4.)

Notwithstanding that the interpretation of application of the reexamination history was beyond the scope of the collateral estoppel motion, the District Court's interpretation of the reexamination history was incorrect.

Indeed, the intrinsic evidence not available to the Colorado Court clearly shows that RAM is a component of the control circuitry and is coupled to the microprocessor, which "drive[s] ***all*** system components." (A740; A744-A756; A526 at Col. 5, ll. 58-59.) (emphasis added.) This fact standing alone commands a finding that the issues presented in the Colorado and San Diego Courts are not identical.

The re-examination concerned the same claim containing the Disputed Term. A Court cannot ignore intrinsic evidence that relates to a claim as a whole simply because it does not specifically refer to a particular subset of claim terms within the same claim. *See, 3M Innovative Props. Co. v. Avery Dennison Corp.*, 350 F.3d 1365, 1371 (Fed. Cir. 2003) (holding that a term's ordinary meaning must be considered in the context of all intrinsic evidence, namely the claims, the specification, and the prosecution history); *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) ("[f]irst we look to the words of the claims themselves, ***both asserted and nonasserted***, to define the scope of the patented invention").

While the existence of additional prosecution history is certainly relevant to a determination of whether the collateral estoppel doctrine applies, the San Diego District Court's interpretation of selected portions of the reexamination history (which was not before the Colorado Court) was beyond the scope of Appellees' collateral estoppel motion and thus improper. The impact of this newly created intrinsic evidence on the construction of the Disputed Term should have been deferred to the District Court's claim construction hearing where all parties would have a full and fair ability to argue (e.g., through additional extrinsic evidence, including witness testimony) the proper application of the re-examination history. By granting Appellees' collateral estoppel motion in this way the Court denied Appellant a full and fair opportunity to put on evidence as to the full impact of the reexamination history.[3]

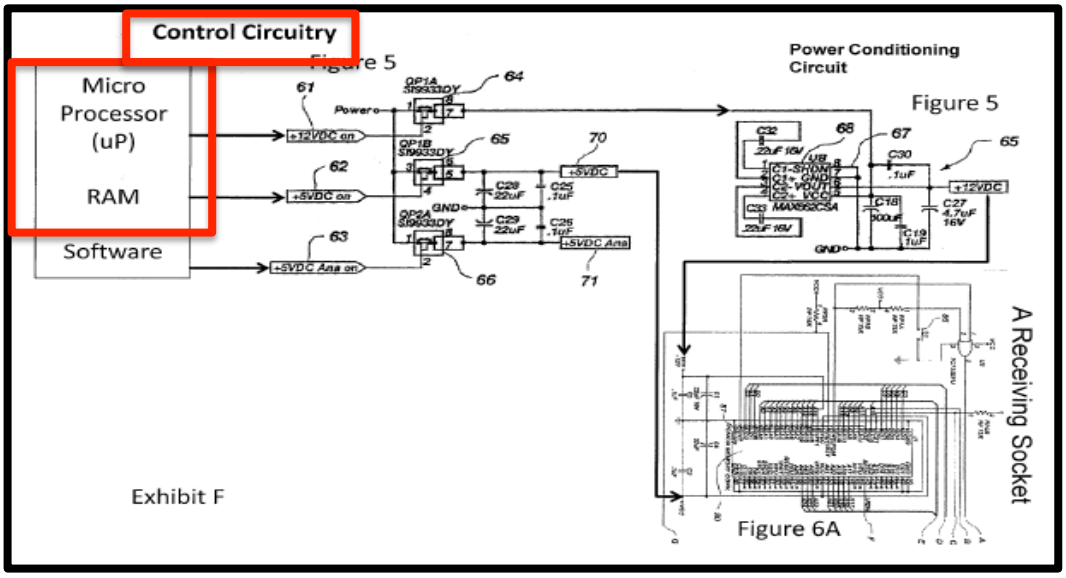
Accordingly, the San Diego District Court's Order granting the application of collateral estoppel should be reversed.

D. An Analysis Of The New Intrinsic Evidence Demonstrates Its Importance To The Construction Of The Disputed Term.

[3] While e.Digital did present some cursory attorney argument regarding the impact of the reexamination history on the proposed construction, it did not anticipate that the Court would convert Defendants/Appellees' collateral estoppel motions into a full-blown claim construction proceeding. e.Digital therefore was deprived of an opportunity to present evidence of how a person of ordinary skill in the art would read and understand the new reexamination history.

The ’774 patent reexamination history clearly references the presence of RAM in the control circuitry of the claimed invention, which is used to support microprocessor operations. In the course of the ’774 patent reexamination proceedings, a personal interview was held on December 2, 2011 with USPTO Central Reexamination Unit members Examiner Tran, Examiner Nalven and Senior Examiner Ryman (*See,*A736-A742). Two weeks later on December 20, 2011 e.Digital filed a Response in Ex Parte Reexamination of U.S. Patent No. 5,491,774. (*See,* A744-A756.) Attached to the response were figures that were discussed at length with the USPTO. (*See* A740 (noting the discussion of the referenced figures, A747-A756.) These figures specifically refer to the presence of RAM in the invention of the ’774 patent to support microprocessor operations. (*See id.*)

Exhibit F (A751-A752) of the above-referenced Response is depicted below. Figures 5 and 6A in Exhibit F show the presence of control circuitry containing a



microprocessor **and RAM** (Fig. 5) coupled to the receiving socket, which would contain the removable flash memory module contained (Fig. 6A). The use of RAM in connection with microprocessor operations is entirely new and is at odds with Judge Krieger's final conclusion that RAM is not involved. Additional exhibits filed with the PTO likewise show the presence of RAM in the device coupled with various other components of the claimed invention, including the newly claimed microprocessor, the speaker and the microphone. (*See,* A747-A750, A753-A754).

Having been shown the above-referenced figures in person and as part of e.Digital's office action response as well as armed with the knowledge of Judge Krieger's claim construction order, the PTO allowed the amendment of the independent claims of the '774 patent to incorporate, the addition of the microprocessor of Fig. 5 shown above. (*See,* A532-A534, and Col. 3, line 3). The significance of this fact is quite telling and something that the District Court seems to have ignored.

A person of ordinary skill in the art at the time of the invention, having the benefit of reviewing the amended claims and the prosecution history containing the above-referenced figures, would therefore clearly understand that the invention of amended claims 33 and 34 requires the presence of RAM to support, among other things, microprocessor applications; a conclusion that contradicts that reached by

Judge Krieger. Judge Krieger did not have the benefit of these additional references to consider in connection with her claim construction order, which standing alone, renders the claim construction issues presented to her fundamentally different than those presented here.

In the District Court below, Appellees argued that the amended claims, the prosecution file and discussion with the examiner are irrelevant since the originally disputed claim terms are still present in new claims 33 and 34. (A504:7-11). Their position is untenable since claim construction requires consideration of all intrinsic evidence.

Moreover, the issue of whether RAM is involved is clearly relevant in light of the fact that Judge Krieger considered it in holding: "[t]he remainder of the disputed language requires that the device use only flash memory, not RAM or any other memory system, while engaging the CODEC, DSP (as applicable), and the memory control functions, as well as storing the fully-manipulated data." (A598).

The reexamination history, which was not available to Judge Krieger, clarified the use of RAM by the microprocessor in the new claim 33. (*See,* A744-A756). Therefore, at least one possible interpretation of the reexamination history is that the microprocessor utilizes RAM while engaging the CODEC, DSP, memory control functions, and storing data. (*See also id.;* at Col. 5, ll. 33-39 (disclosing the DSP and CODEC are coupled to control circuitry 21, which also

contains the microprocessor), Col. 5, l. 58 – Col. 6, l. 15 (CODEC and DSP are coupled to the microprocessor), Figs. 1-2 (control circuitry 21 includes analog-to-digital conversion (CODEC), memory circuitry, control logic, signal processing circuitry, playback circuitry and microprocessor.). The explicit disclosure of RAM in the reexamination is not only material, it is necessary and relevant to a complete and proper claim construction. The Colorado Court did not have this reexamination history to consider, so the issues presented below and in Colorado are not identical and collateral estoppel cannot apply.

E. New Claims 33 And 34 Of The ’774 Patent Narrower and Not Identical To Claims 1 And 19 Litigated In The Colorado Case

After its reexamination of the ’774 patent, the PTO issued a Notice of Intent to Issue *Ex Parte* Reexamination Certificate, which canceled independent claims 1 and 19 allowed new independent claims 33 and 34, and added additional dependent claims. Appellees argue that e.Digital’s position that the invention of the ’774 patent contemplates the use of RAM would unlawfully expand the scope of the claim after reexamination. However, the new language of claims 33 and 34 contain new limitations that were not set forth in former claim 1. Contrary to what the Appellees would argue, with the addition of new limitations comes a narrowing of the scope of the claims, not an expansion.

As such, the changes to the ’774 patent have narrowed the scope of the asserted claims in ways that are substantial and substantive. *See*, *e.g.*, *Laitram*

Corp. v. NEC Corp., 952 F.2d 1357, 1348 (Fed.Cir.1991) (addition of new claim term to avoid prior art deemed substantive); *Bloom Eng'g Co., Inc. v. N. Am. Mfg. Co., Inc.,* 129 F.3d 1247, 1250-51 (Fed. Cir. 1997) ("[T]he claims were narrowed and limited in view of that [prior art] patent. The district court correctly viewed this as a substantive change in claim scope."); *I-Flow Corp. v. Apex Medical Tech., Inc.,* 2010 WL 144405, *3-*5 (S.D. Cal. 2010) (Hon. Dana M. Sabraw) (holding that amending claims to state that "a housing is loosely positioned around said sleeve means, and that it defines a chamber between the sleeve means and the housing," are substantive changes).

With the addition of the words "microprocessor coupled to switch circuitry" and the additional narrowing amendments highlighted above, a wholly different invention was created. Because the new claims reflect the addition of a microprocessor with supporting RAM, which is coupled to the DSP, CODEC, memory circuitry, and control logic, and which "drive[s] all system components," the new claims must necessarily affect the construction of the term "sole memory of the received processed sound electrical signals."

These amendments, along with the clarifying reexamination history, were not before Judge Krieger and, as such, present this Court with issues not previously litigated. Appellees therefore did not meet their burden to show that the issues

presented here and in Colorado are identical or were otherwise fully and fairly litigated.

F. The District Court Erred In Dismissing Out of Hand The New Claim Language.

The San Diego District Court found that the addition of the microprocessor did not add anything to avoid collateral estoppel since a microprocessor is disclosed in dependent claims 15 and 16, which remained unchanged after reexamination. However, the addition of the microprocessor limitation to the body of the independent claims was essential to the PTO allowing the amended claim 33. (A762). Furthermore, the reexamination history clearly illustrates that the microprocessor, which was not previously part of any limitation of the independent claims of the '774 patent, is coupled to RAM.

The patent specifications further make clear that this microprocessor (which is coupled to RAM) drives the components the Colorado Court previously found to be independent of RAM. As a result, the San Diego District Court's determination that the addition of a microprocessor limitation to the independent claims of the '774 patent added nothing to the claims is incorrect. As such, these facts cannot possibly satisfy the identity of issues requirement of collateral estoppel and the District Court's application of the collateral estoppel doctrine must be reversed.

G. The District Court Erred When It Extended Its Order Granting GoPro's Motion To Amend To Non-Moving Parties ZTE And Pantech

As discussed above, Apple, Inc. filed a motion to amend its non-final judgment to convert it to a final judgment pursuant to FRCP 54(b) on October 21, 2013. (A1037-A1059). Apple also filed an *ex parte* motion for an order shortening time with respect to the motion. (A1268-A1273). On October 29, 2013, the District Court denied the *ex parte* motion (A1326-A1328) and set a briefing schedule for the motion to amend. (A1329-A1330). In its briefing order, the District Court stated in pertinent part:

> "All Defendants intending to file motions to amend or correct stipulated partial judgments shall present their arguments by notice of joinder in the motion already filed in case no. 13cv785." (A1330:9-10).

The District Court further directed that the joinders were to be filed with the Court no later than November 8, 2013. (A1330:16-17).

The only Appellee to join Apple's motion was GoPro. (A1335-A1339) despite the District Court's very directive requiring that all defendants who wished to seek leave to amend their stipulated judgments and/or join the Apple motion do so no later than November 8, 2013. ZTE and Pantech never filed notices of joinder in Apple's motion to amend or moved on their own to amend their own non-final judgments (*see,* (A1274-A1275; 1280-A1282; A1824, A1839:16-25; A1840:1).

At the hearing, Pantech made no arguments on the motion and did not indicate that it was joining the motion before or even after the hearing. (*See, generally,* A1792-A1817). ZTE's counsel acknowledged that ZTE intentionally

did not join the motion and, more importantly that ZTE's counsel, Mr. Graham, lacked authority at the time of the hearing on the motion, to seek an amendment of the stipulated judgment. (A1839:16-25; A1840:1). Mr. Graham stated in pertinent part to the Court:

> "The reason ZTE did not join the motion has nothing to do with the merits. But if the court believes that the law requires that all the defendants be certified, I am fairly certain that I could convince ZTE to accept that quite willingly." (A1839:16-25; A1840:1).

Clearly neither Pantech nor ZTE cases sought or wanted an amendment of their non-final, stipulated judgments.

It is worthy of restating that the partial judgments at issue, including their non-final nature, were *stipulated to* by the parties. (A37-A39 (Pantech Stipulated Judgment); A44-A47 (ZTE Stipulated Judgment).) It is further worth noting that the stipulated partial judgments were fully negotiated and agreed to by the parties and jointly submitted to the Court. The Court thereafter granted the joint motions for approval of the stipulations and entered the stipulated partial judgments. (A1009-A1018; A1025-A1036.)

Notwithstanding the fact that the ZTE and Pantech partial judgments were stipulated in advance, and that they did not request a modification of their partial judgments, the District Court nonetheless *sua sponte* extended a order to ZTE and Pantech thus amending their non-final, stipulated judgments making them final pursuant to FRCP 54(b). (A1-A9 (Amended Judgments); A10-A36 (Orders)). In so

doing, the District Court set aside the agreement(s) of the parties and reversed its earlier Orders approving the stipulations for partial judgment (A1018; A1035-A1036) without a pending motion or request to do so by anyone.

Plainly, the District Court was without jurisdiction to grant such relief particularly since Pantech and ZTE did not make or join in a motion to amend and otherwise failed to provide anything to the Court in terms of facts, admissible evidence or legal analysis which would in any way serve to meet their burden of proof for the relief granted.

Additionally, the District Court lacked the legal authority to set aside the stipulations of the parties in the ZTE and Pantech cases. The law is clear that, however unfortunate a party's choices in designing their stipulations may be, those choices may not be unilaterally undone by a Court. *Kapusta v. Gale Corp.,* 457 F.Supp.2d 1051, 1060 (E.D.Cal.2006).

Pursuant to its own mandate, the District Court granted relief to Pantech and ZTE, notwithstanding the fact that they intentionally did not make or join the motion to amend, and presented no facts, no evidence, or any argument to support relief pursuant to FRCP 54(b). More importantly, as a result, e.Digital was denied the opportunity to argue against an amendment of the stipulated judgments given that there was no notice or briefing.

The Court's actions fly in the face of the specific language of FRCP 54(b),

which plainly provides that only "upon a party's motion" may the Court amend its findings and amend a judgment accordingly. The Court in *Spiegel v. Trustees of Tufts College*, 843 F.2d 38, 42 (9th Cir. 1988) explained, that there exists "a long-settled and prudential policy against the scattershot disposition of litigation . . . [and] entry of judgment under FRCP 54(b) should not be indulged as a matter of routine or as a magnanimous accommodation to lawyers or litigants." *See also, MCT Shipping Corp. v. Sabet*, 497 F. Supp. 1078, 1083 (S.D. N.Y. 1980); *Morrison–Knudsen Co., Inc. v. Archer*, 655 F.2d 962, 965 (9th Cir. 1981) (holding that judgments made pursuant to FRCP 54(b) should only be made in unusual cases).

In its order granting the motion, the District Court noted that it was granting the motion *sua sponte* and it cited as its only authority for doing so was 10 C.A. Wright *et al*., Federal Practice and Procedure, Federal Rules of Civil Procedure § 2660 (3d ed. 2013). (A25). Thus the stipulated judgments in the ZTE and Pantech cases should not have been amended and the District Court's order thereon should be reversed and their Appeals dismissed for lack of jurisdiction.

H. Reversal Of The District Court's Order Amending The Stipulated Partial Judgments Non-Final And Not Appealable

In addition to the fact that the District Court inappropriately modified the parties' stipulations for partial judgment, it would appear that the District Court's findings do not support the conclusion that the stipulated partial judgments met the

standards for the application of FRCP Rule 54(b). The law provides that absent a FRCP 54(b) certification appeal is not proper since less than all of the claims of a case are resolved. *Spraytex, Inc. v. DJS&T*, 96 F.3d, 1377 (Fed.Cir. 1966). Assuming *arguendo* that *Spraytex*, a pre-AIA case, applies, then, per the holding in *Spraytex*, a district court's determination as to whether a judgment is final with respect to one or more claims, so as to permit certification under FRCP 54(b), is reviewed *de novo*. *Id.* However, per *Spraytex,* the determination that there was "no just reason for delay" is reviewed under an abuse of discretion standard. *Id*. At 862, 24 USPQ2d at 1198; *see also, Houston Indus., Inc. v. United States,* 78 F.3d 564, 567 (Fed.Cir.1996).

Here, the GoPro, ZTE and Pantech's cases were not consolidated by the District Court for trial purposes, but only for "discovery and claim construction purposes" only. (*See, e.g.,* A369:21-23). The Court must therefore make an express statement of finality and indicate the lack of a just reason for delay before application of FRCP 54(b) is deemed appropriate. *W.L. Gore & Assocs., Inc. v. International Medical Prosthetics Research Assocs., Inc*., 975 F.2d 858, 24 USPQ2d 1195 (Fed.Cir.1992).

The District Court's findings in this regard fail to provide an adequate basis to conclude that the stipulated partial judgments met the finality standard of FRCP 54(b). The Court correctly noted at page 5 of its order granting the motion to

amend (A14:10-13) that "A judgment is not final for FRCP 54(b) purposes unless it is '*an ultimate* disposition of an individual claim entered in the course of a multiple claims action'" (emphasis in original). A plain reading of the stipulated partial judgments evidences just the opposite. Indeed, the stipulated partial judgments provide, *inter alia*, at least two characteristics that are inapposite to a conclusion that they represent an ultimate disposition of claims. In particular the stipulated partial judgments provide that they are: 1) without prejudice as to either party; and 2) the parties reserve all their claims, arguments and defenses in the event that the collateral estoppel orders are reversed, changed or modified. These features of the stipulated partial judgments amount to agreements between the parties that the issues surrounding the '747 and '108 patents are clearly not final and not an ultimate disposition of the claims concerning them.

The totality of the District Court's basis for concluding that the stipulated partial judgments constitute an ultimate disposition of claims sufficient for FRCP 54(b) application, however, is presented below:

> Upon review of the stipulated partial judgments in the cases still pending before the Court, it appears the cases are substantively alike for purposes of determining finality. In each instance, the parties agreed: (1) to enter a partial judgment in favor of each Defendant on Plaintiff's infringement claims regarding the '774 and '108 patents; and (2) the Defendant in each of these cases either dismissed the counterclaims regarding the patent(s) at issue, or a partial judgment was entered on such counterclaims in favor of the Defendant. Accordingly, the stipulated partial judgments fully resolved all claims regarding the '774 and '108 patents, thus meeting the finality

requirement of FRCP 54(b). (A14:13-20).

e.Digital asserts that the District Court failed to make an adequate finding of finality, such that FRCP 54(b) is not applicable to the subject judgments. Indeed, the stipulated partial judgments provided for dismissals without prejudice and left open the prospect for further litigation if and when the Federal Circuit court of Appeal reversed the District Court's collateral estoppel determination.

e.Digital maintains that the District Court failed to make an appropriate finding of an ultimate disposition of claims and thus erred in granting the Appellees' motion to amend their stipulated partial judgments. A reversal of the District Court's Order granting *sua sponte* amendment of the stipulated partial judgments as to GoPro, ZTE and Pantech would deprive this Court of jurisdiction over the instant appeal and as such require dismissal of their appeals.

VIII. CONCLUSION

Based on the foregoing, Plaintiff-Appellant e.Digital Corporation respectfully requests that this Court reverse the District Court and hold that the collateral estoppel doctrine does not apply to preclude e.Digital from arguing constructions of the "sole memory…" terms of the '774 patent and '108 patent different than that found by the court in the earlier Colorado Case. e.Digital further requests that this case be remanded to the District Court for further proceedings consistent with this Court's opinion.

Also, e.Digital requests that the Court reverse the District Court's *sua sponte* Order converting GoPro's, ZTE's and Pantech's stipulated partial judgments to judgments pursuant to FRCP Rule 54(b) and dismiss the instant appeals for lack of jurisdiction.

Respectfully submitted,

Dated: April 24, 2014 By: /s/Pamela C. Chalk
Pamela C. Chalk

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e.Digital Corporation

ADDENDUM

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Order Granting Defendants' Motion To Apply Collateral Estoppel *Filed in the case *e.Digital Corporation v. Woodman Labs, Inc.,* United States District Court Case No. 3:12-cv-02899-DMS-WVG (Fed. Cir. Case No. 14-1243)	A48-A58
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United States District Court

SOUTHERN DISTRICT OF CALIFORNIA

e.Digital Corporation

Civil Action No. 12CV2899-DMS-WVG

Plaintiff,

V.

Woodman Labs, Inc., doing business as GoPro

AMENDED PARTIAL JUDGMENT

Defendant.

Decision by Court. This action came to trial or hearing before the Court. The issues have been tried or heard and a decision has been rendered.

IT IS HEREBY ORDERED AND ADJUDGED:

See Attachment.

Date: 1/7/14

CLERK OF COURT
JOHN MORRILL, Acting Clerk of Court
By: s/ A. Finnell-Yepez
A. Finnell-Yepez, Deputy

United States District Court

SOUTHERN DISTRICT OF CALIFORNIA

(ATTACHMENT)

Civil Action No. 12CV2899-DMS-WVG

1. In this action, Plaintiff and Counter-Defendant e.Digital Corporation ("e.Digital") has alleged that Defendant and Counterclaimant Woodman Labs, Inc. dba GoPro ("GoPro" and "the Accused Products", respectively) infringe independent claims 33 and 34, and dependent claims 2, 10, 15 through 18, 23 through 26, and 28 through 31 of U.S. Patent No. 5,491,774 ("the '774 patent") patent, as set forth in e.Digital's First Amended Complaint (Dkt#60) and e.Digital's Preliminary Infringement Contentions ("PICs") served on June 26, 2013.

2. On August 22, 2013, the Court issued an order granting GoPro's motion to apply collateral estoppel with respect to certain terms contained in claims 33 and 34 of the '774 patent and claims 2 and 5 of the '108 patent ("Collateral Estoppel Order"). (Dkt #64).

3. The Court found that the elements of issue preclusion were met in this matter, and therefore e.Digital is precluded from relitigating the construction of the limitation "sole memory of the received processed sound electrical signals" as contained in claims 33 and 34 of the '774 patent and claims 2 and 5 of the '108 patent. (Dkt#64), as that limitation was previously construed by the United States District Court for the District of Colorado in e.Digital Corp. v. Pentax of America, Inc., C.A. No. 09-cv-2578, to mean "that the device use only flash memory, not RAM or any other memory system, which engaging the CODEC, DSP (as applicable), and memory control functions, as well as storing the fully manipulated data." The Court further found that fairness and public policy favor application of issue preclusion in this matter. (Dkt#64).

4. In view of the construction of the limitation "sole memory of the received processed sound electrical signals" and the operation of the Accused Products, the Parties agree that GoPro has not infringed and does not infringe directly and/or indirectly, independent claims 33 and 34, and dependent claims 2, 3, 6, 10, 15 through 18, 23 through 26, and 28 through 31of the '774 patent, and any other claims depending therefrom. The parties therefore agree that the Court may enter a non-final partial judgment finding that GoPro has not and does not infringe directly and/or indirectly, independent claims 33 and 34, and dependent claims 2, 3, 6, 10, 15 through 18, 23 through 26, and 28 through 31of the '774 patent, and any other claims depending therefrom.

5. It is provided, however, that if the Court's findings as set forth in Collateral Estoppel Order are reversed, changed, or modified on appeal such that the matter is remanded for further consideration in any respect, the Parties reserve all of their claims, arguments and defenses.

6. GoPro hereby dismisses without prejudice its counterclaims of patent invalidity and noninfringement, as well as all other counterclaims and defenses, with respect to the '774 patent, except as those claims relate to a claim for attorneys' fees and/or costs, and further reserves the right to re-assert all such counterclaims and defenses should e.Digital or any successor in interest accuse GoPro of infringement of the '774 patent at any later point in time.

7. Accordingly, the Court enters this Amended Partial Judgment in favor of GoPro on e.Digital's claim for infringement of claims 33 and 34 of the '774 patent and any claims depending therefrom. (Dkt# 1).

8. This Amended Partial Judgment is without prejudice to the Parties' rights to appeal the Court's Collateral Estoppel Order and/or any prior or future orders issued by the Court and is without prejudice to any claim for attorneys' fees and/or costs under any basis, including without limitation Rule 11, Rule 54(d) and § 285.

9. All issues relating to fees and costs are reserved pending the outcome of the Parties' dispute concerning U.S. Patent No. 5,742,737, and the deadlines for filing any and all motions seeking fees and/or costs

United States District Court

SOUTHERN DISTRICT OF CALIFORNIA

(ATTACHMENT)

Civil Action No. 12CV2899-DMS-WVG

shall be set by the Court after the parties' dispute as to the '737 patent is resolved.

10. For the reasons stated in the Order Granting Motions to Amend or Correct Judgments and Stay Actions Pending Appeal, filed January 7, 2014, the Court finds no just reason for delaying entry of this Amended Partial Judgment. Accordingly, this Amended Partial Judgment is final pursuant to Federal Rule of Civil Procedure 54(b).

United States District Court

SOUTHERN DISTRICT OF CALIFORNIA

e.Digital Corporation

Plaintiff,

V.

ZTE Corporation and ZTE (USA) Inc.

Defendant.

Civil Action No. 13CV0782-DMS-WVG

AMENDED PARTIAL JUDGMENT

Decision by Court. This action came to trial or hearing before the Court. The issues have been tried or heard and a decision has been rendered.

IT IS HEREBY ORDERED AND ADJUDGED:

See Attachment.

Date: 1/7/14

CLERK OF COURT
JOHN MORRILL, Acting Clerk of Court
By: s/ A. Finnell-Yepez
A. Finnell-Yepez, Deputy

United States District Court

SOUTHERN DISTRICT OF CALIFORNIA

(ATTACHMENT)

Civil Action No. 13CV0782-DMS-WVG

e.Digital Corporation
Plaintiff,
v.
ZTE Corporation and ZTE (USA) Inc.
Defendants

ZTE (USA), Inc.
Counterclaimant,
v.
e.Digital Corporation
Counter-Defendant

United States District Court

SOUTHERN DISTRICT OF CALIFORNIA

(ATTACHMENT)

Civil Action No. 13CV0782-DMS-WVG

1. In this action, Plaintiff and Counter-Defendant e.Digital Corporation ("e.Digital") has alleged that certain products of Defendant ZTE Corporation and Defendant and Counterclaimant ZTE (USA) Inc. ("ZTE" and the "Accused Products", respectively) infringe independent claims 33 and 34 and dependent claims 2,3,6 through 8, 10, 15, 16, 18,23 through 26, and 28 through 31 of U.S. Patent No. 5,491,774 ("the '774 patent") and independent claim 2 of U.S. Patent No. 5,839,108 ("the' 108 patent"), as set forth in e.Digital's Complaint filed on April 1, 2013 (Dkt # 1) and e.Digital' s Preliminary Infringement Contentions ("PICs") served on June 26, 2013.

2. On August 22, 2013, the Court issued an Order granting ZTE's motion to apply collateral estoppel with respect to certain terms contained in claims 33 and 34 of the '774 patent and claims 2 and 5 of the '108 patent ("Collateral Estoppel Order"). (Dkt #43).

3. The Court found that the elements of issue preclusion were met in this matter, and therefore e.Digital is precluded from relitigating the construction of the limitation "sole memory of the received processed sound electrical signals" as contained in claims 33 and 34 of the '774 patent and claims 2 and 5 of the '108 patent. (Dkt#43), as that limitation was previously construed by the United States District Court for the District of Colorado in e.Digital Corp. v. Pentax of America, Inc., C.A. No. 09-cv-2578, to mean "that the device use only flash memory, not RAM or any other memory system, which engaging the CODEC, DSP (as applicable), and memory control functions, as well as storing the fully-manipulated data." The Court further found that fairness and public policy favor application of issue preclusion in this matter. (Dkt#43).

4. In view of the construction of the limitation "sole memory of the received processed sound electrical signals" and the operation of the Accused Products, the Parties agree that ZTE has not infringed and does not infringe directly and/or indirectly, independent claims 33 and 34, and dependent claims 2, 3,6 through 8, 10, 15, 16, 18,23 through 26, and 28 through 31 of the '774 patent, independent claim 2 of the '108 patent, and any other claims depending therefrom. The parties therefore agree that the Court may enter a non-final partial judgment finding that ZTE has not and does not infringe directly and/or indirectly, independent claims 33 and 34, and dependent claims 2, 3, 6 through 8, 10, 15, 16, 18, 23 through 26, and 28 through 31 of the '774 patent, independent claim 2 of the ' 108 patent, and any other claims depending therefrom.

5. It is provided, however, that if the Court's findings as set forth in Collateral Estoppel Order are reversed, changed, or modified on appeal such that the matter is remanded for further consideration in any respect, the Parties reserve all of their claims, arguments, and defenses.

6. ZTE (USA) hereby dismisses without prejudice its Counterclaims of patent invalidity with respect to the '774 patent and the '108 patent, except as those claims relate to a claim for attorneys' fees and/or costs, and further reserves the right to re-assert all such counterclaims and defenses should e.Digital or any successor in interest accuse ZTE of infringement of the '774 or the '108 patent at any later point in time.

7. Accordingly, the Court enters this Amended Partial Judgment (a) in favor of ZTE on e.Digital' s claim for infringement of claims 33 and 34 of the '774 patent, claim 2 of the' 108 patent, and any other claims depending therefrom. (Dkt #1) , and (b) in favor of ZTE (USA) on its Counterclaims for declarations of non-infringement of independent claims 33 and 34, claim 2 of the' 108 patent, and any other claims depending therefrom (Dkt#31).

8. This Amended Partial Judgment of is without prejudice to the Parties' rights to appeal the Court's Collateral Estoppel Order and/or any prior or future orders issued by the Court and is without prejudice to any claim for attorneys' fees and/or costs under any basis, including without limitation Federal Rule of Civil Procedure ("FRCP")

United States District Court

SOUTHERN DISTRICT OF CALIFORNIA

(ATTACHMENT)

Civil Action No. 13CV0782-DMS-WVG

Rule 11, FRCP Rule 54(d) and 35 U.S.C. § 285.

9. All issues relating to fees and costs are reserved pending the outcome of the Parties' dispute concerning U.S. Patent No. 5,742,737 and U.S. Patent No. 5,842,170, and the deadlines for filing any and all motions seeking fees and/or costs shall be set by the Court after the parties' dispute as to the '737 and' 170 patents are resolved.

10. For the reasons stated in the Order Granting Motions to Amend or Correct Judgments and Stay Actions Pending Appeal, filed January 7, 2014, the Court finds no just reason for delaying entry of this Amended Partial Judgment. Accordingly, this Amended Partial Judgment is final pursuant to Federal Rule of Civil Procedure 54(b).

United States District Court

SOUTHERN DISTRICT OF CALIFORNIA

e.Digital Corporation

Plaintiff,

V.

Pantech Wireless, Inc., also known as Pantech North America; Pantech Co. Ltd.; AT&T Mobility LLC; Verizon Communications, Inc.

Defendant.

Civil Action No. 13CV0023-DMS-WVG

AMENDED PARTIAL JUDGMENT

Decision by Court. This action came to trial or hearing before the Court. The issues have been tried or heard and a decision has been rendered.

IT IS HEREBY ORDERED AND ADJUDGED:

See Attachment.

Date: 1/7/14

CLERK OF COURT
JOHN MORRILL, Acting Clerk of Court
By: s/ A. Finnell-Yepez
A. Finnell-Yepez, Deputy

United States District Court

SOUTHERN DISTRICT OF CALIFORNIA

(ATTACHMENT)

Civil Action No. 13CV0023-DMS-WVG

1. In this action, Plaintiff e.Digital Corporation ("e.Digital") has alleged that certain product lines of Defendants Pantech Wireless, Inc. aka Pantech North America; Pantech Co. Ltd. ("Pantech" and the "Accused Products", respectively) infringe independent claims 33 and 34, and dependent claims 2, 6 through 8, 10, 15 through 16, 18, 23 through 26, and 28 through 31 of U.S. Patent No. 5,491,774 ("the '774 patent") patent and independent claim 2 and 5 and dependent claim 3 of U.S. Patent No. 5,839,108 ("the '108 patent"), as set forth in the First Amended Complaint (Dkt#10) and e.Digital's Preliminary Infringement Contentions ("PICs") served on June 26, 2013.

2. On August 22, 2013, the Court issued an order granting Pantech's motion to apply collateral estoppel with respect to certain terms contained in claims 33 and 34 of the '774 patent and claims 2 and 5 of the '108 patent ("Collateral Estoppel Order"). (Dkt #42).

3. The Court found that the elements of issue preclusion were met in this matter and preclude e.Digital from relitigating the construction of the term "sole memory of the received processed sound electrical signals" as contained in claims 33 and 34 of the '774 patent and claims 2 and 5 of the '108 patent. (Dkt#42). The Court further found that fairness and public policy favor application of issue preclusion in this matter. (Dkt#42).

4. In view of the foregoing, the Parties therefore agree that the Court may enter the proposed Stipulated Partial Judgment finding that Pantech has not infringed and does not infringe directly and/or indirectly, independent claims 33 and 34 and dependent claims 2, 6 through 8, 10, 15 through 16, 18, 23 through 26, and 28 through 31 of the '774 patent, independent claims 2 and 5 and dependent claim 3 of the '108 patent, and any other claims depending therefrom.

5. It is provided, however, that if the Court's findings as set forth in Collateral Estoppel Order are reversed, changed, or modified on appeal such that the matter is remanded for further consideration in any respect, the Parties reserve all of their claims, arguments and defenses.

6. Accordingly, the Court enters this Amended Partial Judgment in favor of Pantech on e.Digital's claim for infringement of claims 33 and 34 of the '774 patent, claims 2 and 5 of the '108 patent, and any other claims depending therefrom. (Dkt# 10).

8. Pantech reserves its rights to seek costs and attorney's fees related to e.Digital's claims for infringement of the '774 patent and the '108 patent asserted in this action.

9. This Amended Partial Judgment is without prejudice to the Parties' rights to appeal the Court's Collateral Estoppel Order and/or any prior or future orders issued by the Court in this matter.

10. For the reasons stated in the Order Granting Motions to Amend or Correct Judgments and Stay Actions Pending Appeal, filed January 7, 2014, the Court finds no just reason for delaying entry of this Amended Partial Judgment. Accordingly, this Amended Partial Judgment is final pursuant to Federal Rule of Civil Procedure 54(b).

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

IN RE: E.DIGITAL CASES

Case nos.

12cv2698-DMS (WVG)
12cv2899-DMS (WVG)
13cv0023-DMS (WVG)
13cv0781-DMS (WVG)
13cv0782-DMS (WVG)

ORDER GRANTING MOTIONS TO AMEND OR CORRECT JUDGMENTS AND STAY ACTIONS PENDING APPEAL

Pending before the Court are motions to amend or correct stipulated partial judgments under Federal Rule of Civil Procedure 54(b) and stay actions pending appeal, filed by Apple, Inc. in *e.Digital Corporation ("e.Digital") v. Apple, Inc.*, case no. 13cv785 ("*Apple*"). Although *Apple* was dismissed by stipulation of the parties on December 19, 2013, the motions remain pending because of joinders filed in related *e.Digital* cases. Defendants in *e.Digital v. Woodman Labs, Inc. dba GoPro et al.*, case no. 12cv2899 ("*GoPro*"), and *e.Digital v. Fujifilm Corporation et al.*, 13cv112 ("*Fujifilm*"), joined in Apple's motion to amend or correct judgment. *Fujifilm* has since been dismissed, leaving GoPro to pursue relief under Rule 54(b). GoPro and Defendants in *e.Digital v. SanDisk Corporation*, case no. 12cv2698 ("*SanDisk*"), *e.Digital v. Philips Electronics North America Corporation*, case no. 12cv2701 ("*Philips*"), *e.Digital v. MachSpeed Technologies, LLC et al.*, case no. 12cv2877 ("*MachSpeed*"), *e.Digital v. Pantech Wireless, Inc. et al.*, case no. 13cv23 ("*Pantech*"), *e.Digital v. Research in Motion*

Limited dba Blackberry et al., case no. 13cv781 ("*Blackberry*"), and *e.Digital v. ZTE Corporation et al.*, case no. 13cv782 ("*ZTE*"), also joined in Apple's motion to stay.[1] Plaintiff e.Digital filed an opposition, and Defendants replied. Plaintiff filed an objection to Defendants' reply in support of the motion to amend or correct judgment, to which Defendants responded. On December 20, 2013, the matter came on for a telephonic hearing. Anton Handal argued on behalf of Plaintiff and Michael Sacksteder, counsel for GoPro, argued on behalf of all Defendants. For the reasons which follow, the motions are granted.

In February 2010, Plaintiff e.Digital filed a patent infringement action in the United States District Court for the District of Colorado against 28 defendants, including Pentax of America, Inc. (*e.Digital v. Pentax of Am.*, case no. 09-cv-2578-MSK-MJW) ("*Pentax*") for infringing three patents, including U.S. Patent No. 5,491,774 ('774 patent), which is at issue in the actions pending in this Court. After the *Pentax* court issued a claim construction order construing the phrase "flash memory module which operates as sole memory of the received processed sound electrical signals," e.Digital settled and voluntarily dismissed its case against each defendant.

The same claim limitation is at issue in the cases pending in this Court. In June 2013, all *e.Digital* Defendants jointly filed a motion to collaterally estop Plaintiff from relitigating construction of the same phrase in the '774 patent and in a related patent, U.S. Patent No. 5,839,108 ('108 patent). Defendants' motion was granted on August 21, 2013. Thereafter, many of the parties in these cases settled the claims and counterclaims at issue in the '774 and '108 patents by stipulating to a partial judgment in favor of each Defendant on the infringement claims, while preserving Plaintiff's right to appeal the collateral estoppel order and re-litigate the '774 and '108 patent claims if the order is reversed. The parties also stipulated that the partial judgments were not final, thus precluding appeal until entry of final judgment. Notably, however, Plaintiff entered into a stipulated judgment in *e.Digital v. Futurewei Technologies, Inc. dba Huawei Technologies (USA)* ("*Huawei*"), case no. 13cv783,

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wherein the parties agreed the judgment was *final* and disposed of all claims. Plaintiff also preserved its right to appeal the collateral estoppel order in that case, and filed a notice of appeal the next day.[2]

GoPro, and the other Defendants, now wish to participate in the appeal of the collateral estoppel order in *Huawei*. While GoPro is the sole remaining moving party on this issue, all Defendants are aligned and maintained a uniform stance on the issue at the hearing. They argue the appeal in *Huawei* may well affect other *e.Digital* cases and should not be left to Huawei alone.[3] Accordingly, GoPro moves to amend its stipulated partial judgment to include a Rule 54(b) certification, making it final for purposes of appeal.

Originally, Apple's motion was styled as a motion to alter or amend judgment under Rule 59(e), but Rule 59(e) applies only to final judgments. *See United States v. Martin*, 226 F.3d 1042, 1048 (9th Cir. 2000).[4] The stipulated judgments here are expressly not final judgments. Thus, to the extent the motion is based on Rule 59(e), it is denied.

However, GoPro's notice of joinder is alternatively based on Rule 54(b), which states in pertinent part:

> any order or other decision, however designated, that adjudicates fewer than all the claims or the rights and liabilities of fewer than all the parties does not end the action as to any of the claims or parties and may be revised at any time before the entry of a judgment adjudicating all the claims and parties' rights and liabilities.

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[2] With the notice of appeal, this Court was divested of jurisdiction over *Huawei*. *See, e.g., Griggs v. Provident Consumer Discount Co.,* 459 U.S. 56, 58 (1982) ("The filing of a notice of appeal is an event of jurisdictional significance -- it confers jurisdiction on the court of appeals and divests the district court of its control over those aspects of the case involved in the appeal.").

[3] Defendants point to *Allflex USA, Inc. v. Avid Identification Sys., Inc.*, 704 F.3d 1362 (Fed. Cir. 2013), and note the *Huawei* settlement and appeal may present "the highly unsatisfactory situation in which the court [of appeals] finds itself with a one-party appeal, where there is no adversarial presentation," *id*. at 1369, but any resulting decision may have consequences for the related cases pending in the lower court. Although *Allflex* addressed mootness in the context of appellate jurisdiction, and not Rule 54(b) certification, it nevertheless underscores Defendants' concern. As in *Huawei*, the parties in *Allflex* entered into a stipulated judgment of disputed claims and dismissed the remaining claims with prejudice. The defendant made a settlement payment to the plaintiff, with a small portion being refundable, if the defendant prevailed on appeal. The defendant appealed, but the plaintiff did not make an appearance because it no longer had a sufficient interest in defending the district court's orders. Although the precise terms of the *Huawei* settlement are unknown, Defendants argue the terms may be such that Huawei may be unmotivated to defend the collateral estoppel order on appeal.

[4] Regional circuit law applies to procedural matters not within the Federal Circuit's exclusive jurisdiction. *Ajinmoto Co., Inc. v. Archer-Daniels-Midland Co.*, 228 F.3d 1338, 1350 (Fed. Cir. 2000) (Rule 59(e) motion).

Under this provision, "the court ha[s] inherent jurisdiction to modify, alter, or revoke" non-final orders. *Martin*, 226 F.3d at 1049. "The authority of district courts to reconsider their own orders before they become final, absent some applicable rule or statute to the contrary, allows them to correct not only simple mistakes, but also decisions based on shifting precedent, rather than waiting for the time-consuming, costly process of appeal." *Id*.

The court's exercise of discretion under Rule 54(b) is generally guided by the law-of-the case doctrine. *See* 18B C.A. Wright *et al*., Fed. Practice and Procedure, Jurisdiction and Related Matters § 4478.1 (2nd ed).[5] The relevant factors in the exercise of such discretion include whether: "(1) the first decision was clearly erroneous; (2) an intervening change in the law occurred; (3) the evidence on remand was substantially different; (4) other changed circumstances exist; or (5) a manifest injustice would otherwise result." *See United States v. Lummi Indian Tribe*, 235 F.3d 443, 452-53 (9th Cir. 2000). As discussed more fully below in the context of Rule 54(b) certification, the circumstances in the *e.Digital* cases changed with the appeal in *Huawei*, which substantially affected all Defendants in the related cases, as well as the efficiency of the proceedings in this Court and the Court of Appeals. Accordingly, the stipulated partial judgments can be amended if Rule 54(b) certification is appropriate.

The Court thus considers whether GoPro has met its burden for the substantive relief it seeks, *i.e.*, certification of the partial judgments for appeal under Rule 54(b). The pertinent portion of Rule 54(b) upon which GoPro relies, provides as follows:

> When an action presents more than one claim for relief ... or when multiple parties are involved, the court may direct entry of a final judgment as to one or more, but fewer than all, claims or parties only if the court expressly determines that there is no just reason for delay.

Because fewer than all claims were adjudicated in *GoPro*, an appeal cannot be taken in the absence of certification under Rule 54(b). Additionally, because *GoPro* was consolidated with all the other *e.Digital* cases, Rule 54(b) certification may be required as to *all of the cases* which are still pending in this Court before an appeal can be taken from any one of the cases. *See Spraytex, Inc. v.*

[5] This case does not present a typical law-of-the-case scenario, as there have been no intervening appeals. Nevertheless, the doctrine is relevant to the exercise of discretion here. Although "[t]he balance that must be struck between stability and reaching the right decision is different than the balance to be struck when successive appeals are taken in the same case, ... [d]iscretion is built into law-of-the case doctrine, [with] the measure of discretion [being] different in these different settings." *Id*.

DJS&T & Homax Corporation, 96 F.3d 1377 (Fed. Cir. 1996).[6] These issues – whether certification is appropriate, and, if so, whether certification of all cases still pending is required – are addressed in turn.

The power to enter a partial final judgment under Rule 54(b) is "to be exercised in light of judicial administrative interests as well as the equities involved, and giving due weight to the historic federal policy against piecemeal appeals." *Reiter v. Cooper*, 507 U.S. 258, 265 (1993)(citations and quotation marks omitted). Rule 54(b) applies when the partial judgment is final with at least one of the claims, and the Court makes a finding that there is no just reason for delay. *Curtiss-Wright Corp. v. Gen. Elec. Co.*, 446 U.S. 1, 7 (1980).

"A judgment is not final for Rule 54(b) purposes unless it is '*an ultimate* disposition of an individual claim entered in the course of a multiple claims action.'" *W.L. Gore & Assoc., Inc. v. Int'l Med. Prosthetics Research Assoc., Inc.*, 975 F.2d 858, 861-62 (Fed. Cir. 1992), quoting *Sears, Roebuck & Co. v. Mackey*, 351 U.S. 427, 436 (1956) (emphasis in original). Upon review of the stipulated partial judgments in the cases still pending before the Court, it appears the cases are substantively alike for purposes of determining finality. In each instance, the parties agreed: (1) to enter a partial judgment in favor of each Defendant on Plaintiff's infringement claims regarding the '774 and '108 patents; and (2) the Defendant in each of these cases either dismissed the counterclaims regarding the patent(s) at issue, or a partial judgment was entered on such counterclaims in favor of the Defendant. Accordingly, the stipulated partial judgments fully resolved all claims regarding the '774 and '108 patents, thus meeting the finality requirement of Rule 54(b).

In deciding whether there is no just reason for delay, courts consider "such factors as whether the claims under review were separable from the others remaining to be adjudicated and whether the nature of the claims already determined was such that no appellate court would have to decide the same issues more than once even if there were subsequent appeals." *Curtiss-Wright*, 446 U.S. at 8. Here,

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[6] The *Spraytex* case was raised for the first time in Defendants' reply, thus depriving Plaintiff of an opportunity to file a responsive brief. While new issues should not be raised for the first time in reply briefs, *see Zamani v. Carnes*, 491 F.3d 990, 997 (9th Cir. 2007), Plaintiff addressed the issue at oral argument and declined to file a supplemental brief. Given the relevance of the issue and Plaintiff's opportunity to address the matter at the hearing, the Court considers the argument at this time.

Plaintiff's infringement claims with respect to two other patents, U.S. Patent Nos. 5,742,737 and 5,842,170 ('737 patent and '170 patent, respectively) remain pending, as do the counterclaims regarding those patents. In addition, any related motions for attorneys' fees have been reserved until the end of the litigation. But, as discussed below, these claims and reservation of rights regarding attorneys' fees do not preclude certification.

While the '737 patent purports to be a continuation of the '774 patent and the '170 patent purports to trace its origins to the '774 patent, and thus the '737 and '170 patents may be related to the '774 patent for claim construction purposes, the potential overlap does not preclude certification. This is because the issue of collateral estoppel – the sole issue to be addressed on the requested certified appeal – is not relevant to construing the claims of the '737 and '170 patents, and thus the same issue will not be appealed more than once. Furthermore, the applicability of collateral estoppel will not be considered in ruling on the attorneys' fee motions. Accordingly, the issue on any certified appeal will be distinct from those remaining in this Court.

Next, the Court considers whether Rule 54(b) certification is required as to all cases still pending in this Court. When final judgment is entered in fewer than all consolidated cases, Rule 54(b) certification is required before any finally adjudicated case can be appealed, because consolidation merges all consolidated cases into one. *Spraytex*, 96 F.3d 1377. The same rule applies when, as here, cases are consolidated for limited purposes. *Boston Edison Co. v. United States*, 299 Fed. Appx. 956 (Fed. Cir. 2008). As noted by Plaintiff at oral argument, *Spraytex* and *Boston Edison* predate the America Invents Act ("AIA"), 35 U.S.C. § 299, which limits consolidation of patent infringement cases for *trial*. But the cases here were consolidated pursuant to section 299 for the limited purpose of conducting discovery and claim construction, not trial. (*See* May 30, 2013 Order After Case Management Conference at 2.) Neither side cited, and the Court is not aware of, any binding authority discussing *Spraytex* or *Boston Edison* after passage of the AIA.[7] However, applying *Spraytex* to cases consolidated for limited purposes, as was done in *Boston Edison*, is consistent with the AIA and the

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[7] *Spraytex* has recently been applied by a district court in a multi-district patent case without discussion of the AIA. *See In re Papst Licensing GmbH & Co. KG Litig.*, __ F. Supp. 2d __, 2013 WL 6017788 (D. D.C. Nov. 14, 2013).

policy of Rule 54(b) to avoid piecemeal review. *See Spraytex*, 93 F.3d at 1382; *see also Reiter*, 507 U.S. at 265. Thus, to the extent cases are consolidated, this Court finds that *Spraytex* requires Rule 54(b) certification unless a final judgment has been entered in each case. Only then can a consolidated case be appealed on the matters for which it was consolidated.

Here, not all Defendants whose cases are still pending in this Court and who entered into partial judgments, have joined the motion to amend the partial judgments to certify them as final.[8] These Defendants are referred to herein as "Other Potential Appellees." As mentioned, GoPro is the only remaining Defendant that has joined in the motion to amend judgment. Certification of that case alone would allow for its immediate appeal but leave open the possibility of appeal against the Other Potential Appellees at a later time, thus permitting multiple appeals of the same issue -- an outcome Rule 54(b) is intended to prevent.

This defect could have been avoided if the Other Potential Appellees had joined in the motion to amend the partial judgments, but they did not. In the absence of their joinder, the Court considers *sua sponte* the issue whether certification should apply to them. *See* 10 C.A. Wright *et al*., Federal Practice and Procedure, Federal Rules of Civil Procedure § 2660 (3d ed. 2013) ("In an appropriate case, the district court may consider the question [of Rule 54(b) certification] *sua sponte*."). No party has presented any reason why appeal of the collateral estoppel order in the cases against the Other Potential Appellees should be treated differently or proceed at a later time than the cases filed against GoPro or Huawei. Accordingly, to the extent certification is appropriate with respect to GoPro, it is also appropriate with respect to the Other Potential Appellees.

As the *Huawei* case is already on appeal, certifying the balance of cases ensures that the collateral estoppel order will be appealed only once. Furthermore, there is no apparent reason why appeal of the collateral estoppel order should not be taken before claim construction of the '737 and '170 patents. The appellate decision may narrow claim construction issues in light of the alleged relationship between the '774 patent on one hand, and the '737 and '170 patents on the other hand. If

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[8] The cases include *Pantech*, *Blackberry* and *ZTE*. *SanDisk* also did not join, but apparently this was because the sole claims at issue pertaining to the '774 patent were voluntarily dismissed after entry of the stipulated partial judgment. SanDisk would therefore not be a party to any appeal of the collateral estoppel order.

the collateral estoppel order is reversed, the '774 and '108 patents can be efficiently construed together with the '737 and '170 patents. Accordingly, the Court finds there is no just reason to delay entering a partial final judgment as to all of the cases at issue.

Finally, the Court turns to the motion to stay further proceedings pending appeal.

> [T]he power to stay proceedings is incidental to the power inherent in every court to control the disposition of the causes on its docket with economy of time and effort for itself, for counsel, and for litigants. How this can best be done calls for the exercise of judgment, which must weigh competing interests and maintain an even balance.

Landis v. N. Am. Co., 299 U.S. 248, 254-55 (1936) (Cardozo, J.). A "stay is immoderate and hence unlawful unless so framed at its inception that its force will be spent within reasonable limits, so far at least as they are susceptible to prevision and description." *Id*. at 257; *see also Cherokee Nation of Okla. v. United States*, 124 F.3d 1413, 1416 (Fed. Cir. 1997) (quoting *Landis*).

Defendants request a stay in light of the *Huawei* appeal. The request is based primarily on the contention that the '737 and '170 patents are related to the '774 patent. They argue that staying further proceedings with respect to the '737 and '170 patents would avoid having to undergo two cycles of claim construction discovery, briefing and hearing, should the collateral estoppel order be reversed. As is apparent from the May 30, 2013 Order After Case Management Conference, the Court initially envisioned that all four patents would be construed together as a means of efficient case management. A decision on appeal with respect to two of the patents likely will define the scope of claim construction. As Plaintiff has not presented any persuasive argument demonstrating it would be prejudiced by a stay of the proceedings, the motion is granted with respect to all *e.Digital* cases pending in this Court.[9]

For the foregoing reasons, Defendants' motions to amend or correct stipulated partial judgments and for stay pending appeal are granted as follows:

1. The Court finds there is no just reason for delay to enter final judgment in case nos. 12cv2899 (*GoPro*), 13cv23 (*Pantech*), 13cv781 (*Blackberry*) and 13cv782 (*ZTE*) with respect to the claims adjudicated in their respective stipulated partial judgments.

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[9] The stay includes *SanDisk* because an infringement claim and related counterclaims remain pending with respect to the '737 patent.

2. The stipulated partial judgments in case nos. 12cv2899 (*GoPro*), 13cv23 (*Pantech*), 13cv781 (*Blackberry*) and 13cv782 (*ZTE*) are hereby amended by replacing the language that "this Stipulated Partial Judgment of Non-Infringement is not final judgment pursuant to Federal Rule of Civil Procedure 54(b)," or language to the same effect, with the following sentence, "For the reasons stated in the Order Granting Motions to Amend or Correct Judgment and Staying Actions Pending Appeal, the Court finds no just reason for delaying entry of final judgment. Accordingly, this Stipulated Partial Judgment of Non-Infringement is final pursuant to Federal Rule of Civil Procedure 54(b)."

3. The Clerk is directed to enter final judgments in accordance with the stipulated partial judgments entered in case nos. 12cv2899 (*GoPro*), 13cv23 (*Pantech*), 13cv781 (*Blackberry*) and 13cv782 (*ZTE*), and as provided herein.

4. All further proceedings in case nos. 12cv2698 (*SanDisk*), 12cv2899 (*GoPro*), 13cv23 (*Pantech*), 13cv781 (*Blackberry*) and 13cv782 (*ZTE*) are stayed pending appeal of case no. 13cv783 (*Huawei*). If appeal is dismissed and if no other appeals from the partial final judgments are filed, the parties shall jointly notify the Court no later than February 27, 2014.

IT IS SO ORDERED.

DATED: January 7, 2014

HON. DANA M. SABRAW
United States District Judge

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

IN RE: E.DIGITAL CASES	Case nos. 12cv2698-DMS (WVG) 12cv2899-DMS (WVG) 13cv0023-DMS (WVG) 13cv0781-DMS (WVG) 13cv0782-DMS (WVG) **ORDER GRANTING MOTIONS TO AMEND OR CORRECT JUDGMENTS AND STAY ACTIONS PENDING APPEAL**

Pending before the Court are motions to amend or correct stipulated partial judgments under Federal Rule of Civil Procedure 54(b) and stay actions pending appeal, filed by Apple, Inc. in *e.Digital Corporation ("e.Digital") v. Apple, Inc.*, case no. 13cv785 ("*Apple*"). Although *Apple* was dismissed by stipulation of the parties on December 19, 2013, the motions remain pending because of joinders filed in related *e.Digital* cases. Defendants in *e.Digital v. Woodman Labs, Inc. dba GoPro et al.*, case no. 12cv2899 ("*GoPro*"), and *e.Digital v. Fujifilm Corporation et al.*, 13cv112 ("*Fujifilm*"), joined in Apple's motion to amend or correct judgment. *Fujifilm* has since been dismissed, leaving GoPro to pursue relief under Rule 54(b). GoPro and Defendants in *e.Digital v. SanDisk Corporation*, case no. 12cv2698 ("*SanDisk*"), *e.Digital v. Philips Electronics North America Corporation*, case no. 12cv2701 ("*Philips*"), *e.Digital v. MachSpeed Technologies, LLC et al.*, case no. 12cv2877 ("*MachSpeed*"), *e.Digital v. Pantech Wireless, Inc. et al.*, case no. 13cv23 ("*Pantech*"), *e.Digital v. Research in Motion*

Limited dba Blackberry et al., case no. 13cv781 ("*Blackberry*"), and *e.Digital v. ZTE Corporation et al.*, case no. 13cv782 ("*ZTE*"), also joined in Apple's motion to stay.[1] Plaintiff e.Digital filed an opposition, and Defendants replied. Plaintiff filed an objection to Defendants' reply in support of the motion to amend or correct judgment, to which Defendants responded. On December 20, 2013, the matter came on for a telephonic hearing. Anton Handal argued on behalf of Plaintiff and Michael Sacksteder, counsel for GoPro, argued on behalf of all Defendants. For the reasons which follow, the motions are granted.

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[2] With the notice of appeal, this Court was divested of jurisdiction over *Huawei*. *See, e.g., Griggs v. Provident Consumer Discount Co.,* 459 U.S. 56, 58 (1982) ("The filing of a notice of appeal is an event of jurisdictional significance -- it confers jurisdiction on the court of appeals and divests the district court of its control over those aspects of the case involved in the appeal.").

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[5] This case does not present a typical law-of-the-case scenario, as there have been no intervening appeals. Nevertheless, the doctrine is relevant to the exercise of discretion here. Although "[t]he balance that must be struck between stability and reaching the right decision is different than the balance to be struck when successive appeals are taken in the same case, ... [d]iscretion is built into law-of-the case doctrine, [with] the measure of discretion [being] different in these different settings." *Id*.

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Plaintiff's infringement claims with respect to two other patents, U.S. Patent Nos. 5,742,737 and 5,842,170 ('737 patent and '170 patent, respectively) remain pending, as do the counterclaims regarding those patents. In addition, any related motions for attorneys' fees have been reserved until the end of the litigation. But, as discussed below, these claims and reservation of rights regarding attorneys' fees do not preclude certification.

While the '737 patent purports to be a continuation of the '774 patent and the '170 patent purports to trace its origins to the '774 patent, and thus the '737 and '170 patents may be related to the '774 patent for claim construction purposes, the potential overlap does not preclude certification. This is because the issue of collateral estoppel – the sole issue to be addressed on the requested certified appeal – is not relevant to construing the claims of the '737 and '170 patents, and thus the same issue will not be appealed more than once. Furthermore, the applicability of collateral estoppel will not be considered in ruling on the attorneys' fee motions. Accordingly, the issue on any certified appeal will be distinct from those remaining in this Court.

Next, the Court considers whether Rule 54(b) certification is required as to all cases still pending in this Court. When final judgment is entered in fewer than all consolidated cases, Rule 54(b) certification is required before any finally adjudicated case can be appealed, because consolidation merges all consolidated cases into one. *Spraytex*, 96 F.3d 1377. The same rule applies when, as here, cases are consolidated for limited purposes. *Boston Edison Co. v. United States*, 299 Fed. Appx. 956 (Fed. Cir. 2008). As noted by Plaintiff at oral argument, *Spraytex* and *Boston Edison* predate the America Invents Act ("AIA"), 35 U.S.C. § 299, which limits consolidation of patent infringement cases for *trial*. But the cases here were consolidated pursuant to section 299 for the limited purpose of conducting discovery and claim construction, not trial. (*See* May 30, 2013 Order After Case Management Conference at 2.) Neither side cited, and the Court is not aware of, any binding authority discussing *Spraytex* or *Boston Edison* after passage of the AIA.[7] However, applying *Spraytex* to cases consolidated for limited purposes, as was done in *Boston Edison*, is consistent with the AIA and the

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[7] *Spraytex* has recently been applied by a district court in a multi-district patent case without discussion of the AIA. *See In re Papst Licensing GmbH & Co. KG Litig.*, __ F. Supp. 2d __, 2013 WL 6017788 (D. D.C. Nov. 14, 2013).

policy of Rule 54(b) to avoid piecemeal review. *See Spraytex*, 93 F.3d at 1382; *see also Reiter*, 507 U.S. at 265. Thus, to the extent cases are consolidated, this Court finds that *Spraytex* requires Rule 54(b) certification unless a final judgment has been entered in each case. Only then can a consolidated case be appealed on the matters for which it was consolidated.

Here, not all Defendants whose cases are still pending in this Court and who entered into partial judgments, have joined the motion to amend the partial judgments to certify them as final.[8] These Defendants are referred to herein as "Other Potential Appellees." As mentioned, GoPro is the only remaining Defendant that has joined in the motion to amend judgment. Certification of that case alone would allow for its immediate appeal but leave open the possibility of appeal against the Other Potential Appellees at a later time, thus permitting multiple appeals of the same issue -- an outcome Rule 54(b) is intended to prevent.

This defect could have been avoided if the Other Potential Appellees had joined in the motion to amend the partial judgments, but they did not. In the absence of their joinder, the Court considers *sua sponte* the issue whether certification should apply to them. *See* 10 C.A. Wright *et al.*, Federal Practice and Procedure, Federal Rules of Civil Procedure § 2660 (3d ed. 2013) ("In an appropriate case, the district court may consider the question [of Rule 54(b) certification] *sua sponte*."). No party has presented any reason why appeal of the collateral estoppel order in the cases against the Other Potential Appellees should be treated differently or proceed at a later time than the cases filed against GoPro or Huawei. Accordingly, to the extent certification is appropriate with respect to GoPro, it is also appropriate with respect to the Other Potential Appellees.

As the *Huawei* case is already on appeal, certifying the balance of cases ensures that the collateral estoppel order will be appealed only once. Furthermore, there is no apparent reason why appeal of the collateral estoppel order should not be taken before claim construction of the '737 and '170 patents. The appellate decision may narrow claim construction issues in light of the alleged relationship between the '774 patent on one hand, and the '737 and '170 patents on the other hand. If

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[8] The cases include *Pantech*, *Blackberry* and *ZTE*. *SanDisk* also did not join, but apparently this was because the sole claims at issue pertaining to the '774 patent were voluntarily dismissed after entry of the stipulated partial judgment. SanDisk would therefore not be a party to any appeal of the collateral estoppel order.

the collateral estoppel order is reversed, the '774 and '108 patents can be efficiently construed together with the '737 and '170 patents. Accordingly, the Court finds there is no just reason to delay entering a partial final judgment as to all of the cases at issue.

Finally, the Court turns to the motion to stay further proceedings pending appeal.

> [T]he power to stay proceedings is incidental to the power inherent in every court to control the disposition of the causes on its docket with economy of time and effort for itself, for counsel, and for litigants. How this can best be done calls for the exercise of judgment, which must weigh competing interests and maintain an even balance.

Landis v. N. Am. Co., 299 U.S. 248, 254-55 (1936) (Cardozo, J.). A "stay is immoderate and hence unlawful unless so framed at its inception that its force will be spent within reasonable limits, so far at least as they are susceptible to prevision and description." *Id*. at 257; *see also Cherokee Nation of Okla. v. United States*, 124 F.3d 1413, 1416 (Fed. Cir. 1997) (quoting *Landis*).

Defendants request a stay in light of the *Huawei* appeal. The request is based primarily on the contention that the '737 and '170 patents are related to the '774 patent. They argue that staying further proceedings with respect to the '737 and '170 patents would avoid having to undergo two cycles of claim construction discovery, briefing and hearing, should the collateral estoppel order be reversed. As is apparent from the May 30, 2013 Order After Case Management Conference, the Court initially envisioned that all four patents would be construed together as a means of efficient case management. A decision on appeal with respect to two of the patents likely will define the scope of claim construction. As Plaintiff has not presented any persuasive argument demonstrating it would be prejudiced by a stay of the proceedings, the motion is granted with respect to all *e.Digital* cases pending in this Court.[9]

For the foregoing reasons, Defendants' motions to amend or correct stipulated partial judgments and for stay pending appeal are granted as follows:

1. The Court finds there is no just reason for delay to enter final judgment in case nos. 12cv2899 (*GoPro*), 13cv23 (*Pantech*), 13cv781 (*Blackberry*) and 13cv782 (*ZTE*) with respect to the claims adjudicated in their respective stipulated partial judgments.

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[9] The stay includes *SanDisk* because an infringement claim and related counterclaims remain pending with respect to the '737 patent.

2. The stipulated partial judgments in case nos. 12cv2899 (*GoPro*), 13cv23 (*Pantech*), 13cv781 (*Blackberry*) and 13cv782 (*ZTE*) are hereby amended by replacing the language that "this Stipulated Partial Judgment of Non-Infringement is not final judgment pursuant to Federal Rule of Civil Procedure 54(b)," or language to the same effect, with the following sentence, "For the reasons stated in the Order Granting Motions to Amend or Correct Judgment and Staying Actions Pending Appeal, the Court finds no just reason for delaying entry of final judgment. Accordingly, this Stipulated Partial Judgment of Non-Infringement is final pursuant to Federal Rule of Civil Procedure 54(b)."

3. The Clerk is directed to enter final judgments in accordance with the stipulated partial judgments entered in case nos. 12cv2899 (*GoPro*), 13cv23 (*Pantech*), 13cv781 (*Blackberry*) and 13cv782 (*ZTE*), and as provided herein.

4. All further proceedings in case nos. 12cv2698 (*SanDisk*), 12cv2899 (*GoPro*), 13cv23 (*Pantech*), 13cv781 (*Blackberry*) and 13cv782 (*ZTE*) are stayed pending appeal of case no. 13cv783 (*Huawei*). If appeal is dismissed and if no other appeals from the partial final judgments are filed, the parties shall jointly notify the Court no later than February 27, 2014.

IT IS SO ORDERED.

DATED: January 7, 2014

HON. DANA M. SABRAW
United States District Judge

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

IN RE: E.DIGITAL CASES	Case nos. 12cv2698-DMS (WVG) 12cv2899-DMS (WVG) 13cv0023-DMS (WVG) 13cv0781-DMS (WVG) 13cv0782-DMS (WVG) **ORDER GRANTING MOTIONS TO AMEND OR CORRECT JUDGMENTS AND STAY ACTIONS PENDING APPEAL**

Pending before the Court are motions to amend or correct stipulated partial judgments under Federal Rule of Civil Procedure 54(b) and stay actions pending appeal, filed by Apple, Inc. in *e.Digital Corporation ("e.Digital") v. Apple, Inc.*, case no. 13cv785 ("*Apple*"). Although *Apple* was dismissed by stipulation of the parties on December 19, 2013, the motions remain pending because of joinders filed in related *e.Digital* cases. Defendants in *e.Digital v. Woodman Labs, Inc. dba GoPro et al.*, case no. 12cv2899 ("*GoPro*"), and *e.Digital v. Fujifilm Corporation et al.*, 13cv112 ("*Fujifilm*"), joined in Apple's motion to amend or correct judgment. *Fujifilm* has since been dismissed, leaving GoPro to pursue relief under Rule 54(b). GoPro and Defendants in *e.Digital v. SanDisk Corporation*, case no. 12cv2698 ("*SanDisk*"), *e.Digital v. Philips Electronics North America Corporation*, case no. 12cv2701 ("*Philips*"), *e.Digital v. MachSpeed Technologies, LLC et al.*, case no. 12cv2877 ("*MachSpeed*"), *e.Digital v. Pantech Wireless, Inc. et al.*, case no. 13cv23 ("*Pantech*"), *e.Digital v. Research in Motion*

Limited dba Blackberry et al., case no. 13cv781 ("*Blackberry*"), and *e.Digital v. ZTE Corporation et al.*, case no. 13cv782 ("*ZTE*"), also joined in Apple's motion to stay.[1] Plaintiff e.Digital filed an opposition, and Defendants replied. Plaintiff filed an objection to Defendants' reply in support of the motion to amend or correct judgment, to which Defendants responded. On December 20, 2013, the matter came on for a telephonic hearing. Anton Handal argued on behalf of Plaintiff and Michael Sacksteder, counsel for GoPro, argued on behalf of all Defendants. For the reasons which follow, the motions are granted.

In February 2010, Plaintiff e.Digital filed a patent infringement action in the United States District Court for the District of Colorado against 28 defendants, including Pentax of America, Inc. (*e.Digital v. Pentax of Am.*, case no. 09-cv-2578-MSK-MJW) ("*Pentax*") for infringing three patents, including U.S. Patent No. 5,491,774 ('774 patent), which is at issue in the actions pending in this Court. After the *Pentax* court issued a claim construction order construing the phrase "flash memory module which operates as sole memory of the received processed sound electrical signals," e.Digital settled and voluntarily dismissed its case against each defendant.

The same claim limitation is at issue in the cases pending in this Court. In June 2013, all *e.Digital* Defendants jointly filed a motion to collaterally estop Plaintiff from relitigating construction of the same phrase in the '774 patent and in a related patent, U.S. Patent No. 5,839,108 ('108 patent). Defendants' motion was granted on August 21, 2013. Thereafter, many of the parties in these cases settled the claims and counterclaims at issue in the '774 and '108 patents by stipulating to a partial judgment in favor of each Defendant on the infringement claims, while preserving Plaintiff's right to appeal the collateral estoppel order and re-litigate the '774 and '108 patent claims if the order is reversed. The parties also stipulated that the partial judgments were not final, thus precluding appeal until entry of final judgment. Notably, however, Plaintiff entered into a stipulated judgment in *e.Digital v. Futurewei Technologies, Inc. dba Huawei Technologies (USA)* ("*Huawei*"), case no. 13cv783,

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[1] *MachSpeed* and *Philips* have been voluntarily dismissed.

wherein the parties agreed the judgment was *final* and disposed of all claims. Plaintiff also preserved its right to appeal the collateral estoppel order in that case, and filed a notice of appeal the next day.[2]

GoPro, and the other Defendants, now wish to participate in the appeal of the collateral estoppel order in *Huawei*. While GoPro is the sole remaining moving party on this issue, all Defendants are aligned and maintained a uniform stance on the issue at the hearing. They argue the appeal in *Huawei* may well affect other *e.Digital* cases and should not be left to Huawei alone.[3] Accordingly, GoPro moves to amend its stipulated partial judgment to include a Rule 54(b) certification, making it final for purposes of appeal.

Originally, Apple's motion was styled as a motion to alter or amend judgment under Rule 59(e), but Rule 59(e) applies only to final judgments. *See United States v. Martin*, 226 F.3d 1042, 1048 (9th Cir. 2000).[4] The stipulated judgments here are expressly not final judgments. Thus, to the extent the motion is based on Rule 59(e), it is denied.

However, GoPro's notice of joinder is alternatively based on Rule 54(b), which states in pertinent part:

> any order or other decision, however designated, that adjudicates fewer than all the claims or the rights and liabilities of fewer than all the parties does not end the action as to any of the claims or parties and may be revised at any time before the entry of a judgment adjudicating all the claims and parties' rights and liabilities.

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[2] With the notice of appeal, this Court was divested of jurisdiction over *Huawei*. *See, e.g.*, *Griggs v. Provident Consumer Discount Co.*, 459 U.S. 56, 58 (1982) ("The filing of a notice of appeal is an event of jurisdictional significance -- it confers jurisdiction on the court of appeals and divests the district court of its control over those aspects of the case involved in the appeal.").

[3] Defendants point to *Allflex USA, Inc. v. Avid Identification Sys., Inc.*, 704 F.3d 1362 (Fed. Cir. 2013), and note the *Huawei* settlement and appeal may present "the highly unsatisfactory situation in which the court [of appeals] finds itself with a one-party appeal, where there is no adversarial presentation," *id*. at 1369, but any resulting decision may have consequences for the related cases pending in the lower court. Although *Allflex* addressed mootness in the context of appellate jurisdiction, and not Rule 54(b) certification, it nevertheless underscores Defendants' concern. As in *Huawei*, the parties in *Allflex* entered into a stipulated judgment of disputed claims and dismissed the remaining claims with prejudice. The defendant made a settlement payment to the plaintiff, with a small portion being refundable, if the defendant prevailed on appeal. The defendant appealed, but the plaintiff did not make an appearance because it no longer had a sufficient interest in defending the district court's orders. Although the precise terms of the *Huawei* settlement are unknown, Defendants argue the terms may be such that Huawei may be unmotivated to defend the collateral estoppel order on appeal.

[4] Regional circuit law applies to procedural matters not within the Federal Circuit's exclusive jurisdiction. *Ajinmoto Co., Inc. v. Archer-Daniels-Midland Co.*, 228 F.3d 1338, 1350 (Fed. Cir. 2000) (Rule 59(e) motion).

Under this provision, "the court ha[s] inherent jurisdiction to modify, alter, or revoke" non-final orders. *Martin*, 226 F.3d at 1049. "The authority of district courts to reconsider their own orders before they become final, absent some applicable rule or statute to the contrary, allows them to correct not only simple mistakes, but also decisions based on shifting precedent, rather than waiting for the time-consuming, costly process of appeal." *Id*.

The court's exercise of discretion under Rule 54(b) is generally guided by the law-of-the case doctrine. *See* 18B C.A. Wright *et al*., Fed. Practice and Procedure, Jurisdiction and Related Matters § 4478.1 (2nd ed).[5] The relevant factors in the exercise of such discretion include whether: "(1) the first decision was clearly erroneous; (2) an intervening change in the law occurred; (3) the evidence on remand was substantially different; (4) other changed circumstances exist; or (5) a manifest injustice would otherwise result." *See United States v. Lummi Indian Tribe*, 235 F.3d 443, 452-53 (9th Cir. 2000). As discussed more fully below in the context of Rule 54(b) certification, the circumstances in the *e.Digital* cases changed with the appeal in *Huawei*, which substantially affected all Defendants in the related cases, as well as the efficiency of the proceedings in this Court and the Court of Appeals. Accordingly, the stipulated partial judgments can be amended if Rule 54(b) certification is appropriate.

The Court thus considers whether GoPro has met its burden for the substantive relief it seeks, *i.e.*, certification of the partial judgments for appeal under Rule 54(b). The pertinent portion of Rule 54(b) upon which GoPro relies, provides as follows:

> When an action presents more than one claim for relief ... or when multiple parties are involved, the court may direct entry of a final judgment as to one or more, but fewer than all, claims or parties only if the court expressly determines that there is no just reason for delay.

Because fewer than all claims were adjudicated in *GoPro*, an appeal cannot be taken in the absence of certification under Rule 54(b). Additionally, because *GoPro* was consolidated with all the other *e.Digital* cases, Rule 54(b) certification may be required as to *all of the cases* which are still pending in this Court before an appeal can be taken from any one of the cases. *See Spraytex, Inc. v.*

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[5] This case does not present a typical law-of-the-case scenario, as there have been no intervening appeals. Nevertheless, the doctrine is relevant to the exercise of discretion here. Although "[t]he balance that must be struck between stability and reaching the right decision is different than the balance to be struck when successive appeals are taken in the same case, ... [d]iscretion is built into law-of-the case doctrine, [with] the measure of discretion [being] different in these different settings." *Id*.

DJS&T & Homax Corporation, 96 F.3d 1377 (Fed. Cir. 1996).[6] These issues – whether certification is appropriate, and, if so, whether certification of all cases still pending is required – are addressed in turn.

The power to enter a partial final judgment under Rule 54(b) is "to be exercised in light of judicial administrative interests as well as the equities involved, and giving due weight to the historic federal policy against piecemeal appeals." *Reiter v. Cooper*, 507 U.S. 258, 265 (1993)(citations and quotation marks omitted). Rule 54(b) applies when the partial judgment is final with at least one of the claims, and the Court makes a finding that there is no just reason for delay. *Curtiss-Wright Corp. v. Gen. Elec. Co.*, 446 U.S. 1, 7 (1980).

"A judgment is not final for Rule 54(b) purposes unless it is '*an ultimate* disposition of an individual claim entered in the course of a multiple claims action.'" *W.L. Gore & Assoc., Inc. v. Int'l Med. Prosthetics Research Assoc., Inc.*, 975 F.2d 858, 861-62 (Fed. Cir. 1992), quoting *Sears, Roebuck & Co. v. Mackey*, 351 U.S. 427, 436 (1956) (emphasis in original). Upon review of the stipulated partial judgments in the cases still pending before the Court, it appears the cases are substantively alike for purposes of determining finality. In each instance, the parties agreed: (1) to enter a partial judgment in favor of each Defendant on Plaintiff's infringement claims regarding the '774 and '108 patents; and (2) the Defendant in each of these cases either dismissed the counterclaims regarding the patent(s) at issue, or a partial judgment was entered on such counterclaims in favor of the Defendant. Accordingly, the stipulated partial judgments fully resolved all claims regarding the '774 and '108 patents, thus meeting the finality requirement of Rule 54(b).

In deciding whether there is no just reason for delay, courts consider "such factors as whether the claims under review were separable from the others remaining to be adjudicated and whether the nature of the claims already determined was such that no appellate court would have to decide the same issues more than once even if there were subsequent appeals." *Curtiss-Wright*, 446 U.S. at 8. Here,

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[6] The *Spraytex* case was raised for the first time in Defendants' reply, thus depriving Plaintiff of an opportunity to file a responsive brief. While new issues should not be raised for the first time in reply briefs, *see Zamani v. Carnes*, 491 F.3d 990, 997 (9th Cir. 2007), Plaintiff addressed the issue at oral argument and declined to file a supplemental brief. Given the relevance of the issue and Plaintiff's opportunity to address the matter at the hearing, the Court considers the argument at this time.

Plaintiff's infringement claims with respect to two other patents, U.S. Patent Nos. 5,742,737 and 5,842,170 ('737 patent and '170 patent, respectively) remain pending, as do the counterclaims regarding those patents. In addition, any related motions for attorneys' fees have been reserved until the end of the litigation. But, as discussed below, these claims and reservation of rights regarding attorneys' fees do not preclude certification.

While the '737 patent purports to be a continuation of the '774 patent and the '170 patent purports to trace its origins to the '774 patent, and thus the '737 and '170 patents may be related to the '774 patent for claim construction purposes, the potential overlap does not preclude certification. This is because the issue of collateral estoppel – the sole issue to be addressed on the requested certified appeal – is not relevant to construing the claims of the '737 and '170 patents, and thus the same issue will not be appealed more than once. Furthermore, the applicability of collateral estoppel will not be considered in ruling on the attorneys' fee motions. Accordingly, the issue on any certified appeal will be distinct from those remaining in this Court.

Next, the Court considers whether Rule 54(b) certification is required as to all cases still pending in this Court. When final judgment is entered in fewer than all consolidated cases, Rule 54(b) certification is required before any finally adjudicated case can be appealed, because consolidation merges all consolidated cases into one. *Spraytex*, 96 F.3d 1377. The same rule applies when, as here, cases are consolidated for limited purposes. *Boston Edison Co. v. United States*, 299 Fed. Appx. 956 (Fed. Cir. 2008). As noted by Plaintiff at oral argument, *Spraytex* and *Boston Edison* predate the America Invents Act ("AIA"), 35 U.S.C. § 299, which limits consolidation of patent infringement cases for *trial*. But the cases here were consolidated pursuant to section 299 for the limited purpose of conducting discovery and claim construction, not trial. (*See* May 30, 2013 Order After Case Management Conference at 2.) Neither side cited, and the Court is not aware of, any binding authority discussing *Spraytex* or *Boston Edison* after passage of the AIA.[7] However, applying *Spraytex* to cases consolidated for limited purposes, as was done in *Boston Edison*, is consistent with the AIA and the

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[7] *Spraytex* has recently been applied by a district court in a multi-district patent case without discussion of the AIA. *See In re Papst Licensing GmbH & Co. KG Litig.*, __ F. Supp. 2d __, 2013 WL 6017788 (D. D.C. Nov. 14, 2013).

policy of Rule 54(b) to avoid piecemeal review. *See Spraytex*, 93 F.3d at 1382; *see also Reiter*, 507 U.S. at 265. Thus, to the extent cases are consolidated, this Court finds that *Spraytex* requires Rule 54(b) certification unless a final judgment has been entered in each case. Only then can a consolidated case be appealed on the matters for which it was consolidated.

Here, not all Defendants whose cases are still pending in this Court and who entered into partial judgments, have joined the motion to amend the partial judgments to certify them as final.[8] These Defendants are referred to herein as "Other Potential Appellees." As mentioned, GoPro is the only remaining Defendant that has joined in the motion to amend judgment. Certification of that case alone would allow for its immediate appeal but leave open the possibility of appeal against the Other Potential Appellees at a later time, thus permitting multiple appeals of the same issue -- an outcome Rule 54(b) is intended to prevent.

This defect could have been avoided if the Other Potential Appellees had joined in the motion to amend the partial judgments, but they did not. In the absence of their joinder, the Court considers *sua sponte* the issue whether certification should apply to them. *See* 10 C.A. Wright *et al*., Federal Practice and Procedure, Federal Rules of Civil Procedure § 2660 (3d ed. 2013) ("In an appropriate case, the district court may consider the question [of Rule 54(b) certification] *sua sponte*."). No party has presented any reason why appeal of the collateral estoppel order in the cases against the Other Potential Appellees should be treated differently or proceed at a later time than the cases filed against GoPro or Huawei. Accordingly, to the extent certification is appropriate with respect to GoPro, it is also appropriate with respect to the Other Potential Appellees.

As the *Huawei* case is already on appeal, certifying the balance of cases ensures that the collateral estoppel order will be appealed only once. Furthermore, there is no apparent reason why appeal of the collateral estoppel order should not be taken before claim construction of the '737 and '170 patents. The appellate decision may narrow claim construction issues in light of the alleged relationship between the '774 patent on one hand, and the '737 and '170 patents on the other hand. If

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[8] The cases include *Pantech*, *Blackberry* and *ZTE*. *SanDisk* also did not join, but apparently this was because the sole claims at issue pertaining to the '774 patent were voluntarily dismissed after entry of the stipulated partial judgment. SanDisk would therefore not be a party to any appeal of the collateral estoppel order.

the collateral estoppel order is reversed, the ‘774 and ‘108 patents can be efficiently construed together with the ‘737 and ‘170 patents. Accordingly, the Court finds there is no just reason to delay entering a partial final judgment as to all of the cases at issue.

Finally, the Court turns to the motion to stay further proceedings pending appeal.

> [T]he power to stay proceedings is incidental to the power inherent in every court to control the disposition of the causes on its docket with economy of time and effort for itself, for counsel, and for litigants. How this can best be done calls for the exercise of judgment, which must weigh competing interests and maintain an even balance.

Landis v. N. Am. Co., 299 U.S. 248, 254-55 (1936) (Cardozo, J.). A "stay is immoderate and hence unlawful unless so framed at its inception that its force will be spent within reasonable limits, so far at least as they are susceptible to prevision and description." *Id*. at 257; *see also Cherokee Nation of Okla. v. United States*, 124 F.3d 1413, 1416 (Fed. Cir. 1997) (quoting *Landis*).

Defendants request a stay in light of the *Huawei* appeal. The request is based primarily on the contention that the ‘737 and ‘170 patents are related to the ‘774 patent. They argue that staying further proceedings with respect to the ‘737 and ‘170 patents would avoid having to undergo two cycles of claim construction discovery, briefing and hearing, should the collateral estoppel order be reversed. As is apparent from the May 30, 2013 Order After Case Management Conference, the Court initially envisioned that all four patents would be construed together as a means of efficient case management. A decision on appeal with respect to two of the patents likely will define the scope of claim construction. As Plaintiff has not presented any persuasive argument demonstrating it would be prejudiced by a stay of the proceedings, the motion is granted with respect to all *e.Digital* cases pending in this Court.[9]

For the foregoing reasons, Defendants' motions to amend or correct stipulated partial judgments and for stay pending appeal are granted as follows:

1. The Court finds there is no just reason for delay to enter final judgment in case nos. 12cv2899 (*GoPro*), 13cv23 (*Pantech*), 13cv781 (*Blackberry*) and 13cv782 (*ZTE*) with respect to the claims adjudicated in their respective stipulated partial judgments.

[9] The stay includes *SanDisk* because an infringement claim and related counterclaims remain pending with respect to the ‘737 patent.

2. The stipulated partial judgments in case nos. 12cv2899 (*GoPro*), 13cv23 (*Pantech*), 13cv781 (*Blackberry*) and 13cv782 (*ZTE*) are hereby amended by replacing the language that "this Stipulated Partial Judgment of Non-Infringement is not final judgment pursuant to Federal Rule of Civil Procedure 54(b)," or language to the same effect, with the following sentence, "For the reasons stated in the Order Granting Motions to Amend or Correct Judgment and Staying Actions Pending Appeal, the Court finds no just reason for delaying entry of final judgment. Accordingly, this Stipulated Partial Judgment of Non-Infringement is final pursuant to Federal Rule of Civil Procedure 54(b)."

3. The Clerk is directed to enter final judgments in accordance with the stipulated partial judgments entered in case nos. 12cv2899 (*GoPro*), 13cv23 (*Pantech*), 13cv781 (*Blackberry*) and 13cv782 (*ZTE*), and as provided herein.

4. All further proceedings in case nos. 12cv2698 (*SanDisk*), 12cv2899 (*GoPro*), 13cv23 (*Pantech*), 13cv781 (*Blackberry*) and 13cv782 (*ZTE*) are stayed pending appeal of case no. 13cv783 (*Huawei*). If appeal is dismissed and if no other appeals from the partial final judgments are filed, the parties shall jointly notify the Court no later than February 27, 2014.

IT IS SO ORDERED.

DATED: January 7, 2014

HON. DANA M. SABRAW
United States District Judge

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

e.Digital Corporation, Plaintiff, v. Pantech Wireless, Inc. aka Pantech North America; Pantech Co. Ltd.; AT&T Mobility LLC; Verizon Communications, Inc., Defendants.	Case No. 3:13-cv-00023-DMS-WVG **STIPULATED PARTIAL JUDGMENT** **Assigned to the Honorable Judge Dana M. Sabraw** **Ctrm: 13A (Annex)**

<u>STIPULATED PARTIAL JUDGMENT OF NON-INFRINGEMENT</u>

Plaintiff e.Digital Corporation ("e.Digital"); Defendants Pantech Wireless, Inc. aka Pantech North America; Pantech Co. Ltd. (collectively referred to as "Pantech") by their undersigned counsel, hereby stipulate and agree, subject to the approval of the Court, to the entry of the following Stipulated Partial Judgment of Non-Infringement:

1. In this action, e.Digital has alleged that certain Pantech product lines (the "Accused Products") infringe independent claims 33 and 34, and dependent claims 2, 6 through 8, 10, 15 through 16, 18, 23 through 26, and 28 through 31 of

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U.S. Patent No. 5,491,774 ("the '774 patent") patent and independent claim 2 and 5 and dependent claim 3 of U.S. Patent No. 5,839,108 ("the '108 patent"), as set forth in the First Amended Complaint (Dkt#10) and e.Digital's Preliminary Infringement Contentions ("PICs") served on June 26, 2013.

2. On August 22, 2013, the Honorable Judge Dana M. Sabraw issued an order granting Pantech's motion to apply collateral estoppel with respect to certain terms contained in claims 33 and 34 of the '774 patent and claims 2 and 5 of the '108 patent ("Collateral Estoppel Order"). (Dkt #42).

3. The Court found that the elements of issue preclusion were met in this matter and preclude e.Digital from relitigating the construction of the term "sole memory of the received processed sound electrical signals" as contained in claims 33 and 34 of the '774 patent and claims 2 and 5 of the '108 patent. (Dkt#42). The Court further found that fairness and public policy favor application of issue preclusion in this matter. (Dkt#42).

4. In view of the foregoing, the Parties therefore agree that the Court may enter this Stipulated Partial Judgment finding that Pantech has not infringed and does not infringe directly and/or indirectly, independent claims 33 and 34 and dependent claims 2, 6 through 8, 10, 15 through 16, 18, 23 through 26, and 28 through 31 of the '774 patent, independent claims 2 and 5 and dependent claim 3 of the '108 patent, and any other claims depending therefrom.

5. It is provided, however, that if the Court's findings as set forth in Collateral Estoppel Order are reversed, changed, or modified on appeal such that the matter is remanded for further consideration in any respect, the Parties reserve all of their claims, arguments and defenses.

6. Accordingly, the Court enters this Stipulated Partial Judgment of Non-Infringement in favor of Pantech on e.Digital's claim for infringement of claims 33 and 34 of the '774 patent, claims 2 and 5 of the '108 patent, and any other claims

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depending therefrom. (Dkt# 10).

8. Pantech reserves its rights to seek costs and attorney's fees related to e.Digital's claims for infringement of the '774 patent and the '108 patent asserted in this action.

9. This Stipulated Partial Judgment of Non-Infringement is without prejudice to the Parties' rights to appeal the Court's Collateral Estoppel Order and/or any prior or future orders issued by the Court in this matter.

10. This Stipulated Partial Judgment of Non-Infringement, if so necessary, is to be merged and/or become part of any final judgment entered in this matter and may be incorporated as an exhibit thereto.

Dated: September 16, 2013

UNITED STATES DISTRICT JUDGE

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UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

e.Digital Corporation, Plaintiff, v. Woodman Labs, Inc. dba GoPro, Defendants.	Case No. 3:12-cv-02899-DMS(WVG) **STIPULATED PARTIAL JUDGMENT** **Assigned to the Honorable Judge Dana M. Sabraw** **Ctrm: 13A (Annex)**

STIPULATED PARTIAL JUDGMENT OF NON-INFRINGEMENT

Plaintiff and Counter-Defendant e.Digital Corporation ("e.Digital") and Defendant and Counterclaimant Woodman Labs, Inc. dba GoPro ("GoPro") by their undersigned counsel, hereby stipulate and agree, subject to the approval of the Court, to the entry of the following Stipulated Partial Judgment of Non-Infringement:

1. In this action, e.Digital has alleged that certain GoPro product lines (the "Accused Products") infringe independent claims 33 and 34, and dependent claims 2, 10, 15 through 18, 23 through 26, and 28 through 31 of U.S. Patent No.

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5,491,774 ("the '774 patent") patent, as set forth in e.Digital's First Amended Complaint (Dkt#60) and e.Digital's Preliminary Infringement Contentions ("PICs") served on June 26, 2013.

2. On August 22, 2013, the Honorable Judge Dana M. Sabraw issued an order granting GoPro's motion to apply collateral estoppel with respect to certain terms contained in claims 33 and 34 of the '774 patent and claims 2 and 5 of the '108 patent ("Collateral Estoppel Order"). (Dkt #64).

3. The Court found that the elements of issue preclusion were met in this matter, and therefore e.Digital is precluded from relitigating the construction of the limitation "sole memory of the received processed sound electrical signals" as contained in claims 33 and 34 of the '774 patent and claims 2 and 5 of the '108 patent. (Dkt#64), as that limitation was previously construed by the United States District Court for the District of Colorado in e.Digital Corp. v. Pentax of America, Inc., C.A. No. 09-cv-2578, to mean "that the device use only flash memory, not RAM or any other memory system, which engaging the CODEC, DSP (as applicable), and memory control functions, as well as storing the fully-manipulated data." The Court further found that fairness and public policy favor application of issue preclusion in this matter. (Dkt#64).

4. In view of the construction of the limitation "sole memory of the received processed sound electrical signals" and the operation of the Accused Products, the Parties agree that GoPro has not infringed and does not infringe directly and/or indirectly, independent claims 33 and 34, and dependent claims 2, 3, 6, 10, 15 through 18, 23 through 26, and 28 through 31of the '774 patent, and any other claims depending therefrom. The parties therefore agree that the Court may enter a non-final partial judgment finding that GoPro has not and does not infringe directly and/or indirectly, independent claims 33 and 34, and dependent claims 2, 3, 6, 10, 15 through 18, 23 through 26, and 28 through 31of the '774 patent, and any other claims depending therefrom.

5. It is provided, however, that if the Court's findings as set forth in Collateral Estoppel Order are reversed, changed, or modified on appeal such that the matter is remanded for further consideration in any respect, the Parties reserve all of their claims, arguments and defenses.

6. GoPro hereby dismisses without prejudice its counterclaims of patent invalidity and noninfringement, as well as all other counterclaims and defenses, with respect to the '774 patent, except as those claims relate to a claim for attorneys' fees and/or costs, and further reserves the right to re-assert all such counterclaims and defenses should e.Digital or any successor in interest accuse GoPro of infringement of the '774 patent at any later point in time.

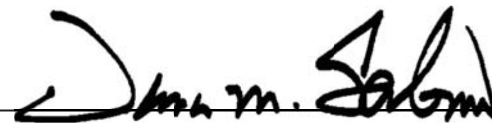
7. Accordingly, the Court enters this non-final Stipulated Partial Judgment of Non-Infringement in favor of GoPro on e.Digital's claim for infringement of claims 33 and 34 of the '774 patent and any claims depending therefrom. (Dkt# 1).

8. This non-final Stipulated Partial Judgment of Non-Infringement is without prejudice to the Parties' rights to appeal the Court's Collateral Estoppel Order and/or any prior or future orders issued by the Court and is without prejudice to any claim for attorneys' fees and/or costs under any basis, including without limitation Rule 11, Rule 54(d) and § 285.

9. All issues relating to fees and costs are reserved pending the outcome of the Parties' dispute concerning U.S. Patent No. 5,742,737, and the deadlines for filing any and all motions seeking fees and/or costs shall be set by the Court after the parties' dispute as to the '737 patent is resolved.

10. For the sake of clarity, this Stipulated Partial Judgment of Non-Infringement is not a final judgment pursuant Federal Rule of Civil Procedure 54(b) and, if so necessary, is to be merged and/or become part of any final judgment entered in this matter and may be incorporated as an exhibit thereto.

Dated: September 30, 2013



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UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

e.Digital Corporation, Plaintiff, v. ZTE Corporation and ZTE (USA) Inc., Defendants.	Case No. 3:13-cv-00782-DMS-WVG ~~[PROPOSED]~~ STIPULATED PARTIAL JUDGMENT **Assigned to the Honorable Judge Dana M. Sabraw** **Ctrm: 13A (Annex)**
ZTE (USA), Inc., Counterclaimant, v. e.Digital Corporation, Counter-Defendant.	

STIPULATED PARTIAL JUDGMENT

OF NON-INFRINGEMENT

Plaintiff and Counter-Defendant e.Digital Corporation ("e.Digital"); and Defendant ZTE Corporation and Defendant and Counterclaimant ZTE (USA) Inc.

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(collectively referred to as "ZTE"), by their undersigned counsel, hereby stipulate and agree, subject to the approval of the Court, to the entry of the following Stipulated Partial Judgment of Non-Infringement:

1. In this action, e.Digital has alleged that certain ZTE products (the "Accused Products") infringe independent claims 33 and 34 and dependent claims 2, 3, 6 through 8, 10, 15, 16, 18, 23 through 26, and 28 through 31 of U.S. Patent No. 5,491,774 ("the '774 patent") and independent claim 2 of U.S. Patent No. 5,839,108 ("the '108 patent"), as set forth in e.Digital's Complaint filed on April 1, 2013 (Dkt #1) and e.Digital's Preliminary Infringement Contentions ("PICs") served on June 26, 2013.

2. On August 22, 2013, the Honorable Judge Dana M. Sabraw issued an Order granting ZTE's motion to apply collateral estoppel with respect to certain terms contained in claims 33 and 34 of the '774 patent and claims 2 and 5 of the '108 patent ("Collateral Estoppel Order"). (Dkt #43).

3. The Court found that the elements of issue preclusion were met in this matter, and therefore e.Digital is precluded from relitigating the construction of the limitation "sole memory of the received processed sound electrical signals" as contained in claims 33 and 34 of the '774 patent and claims 2 and 5 of the '108 patent. (Dkt#43), as that limitation was previously construed by the United States District Court for the District of Colorado in *e.Digital Corp. v. Pentax of America, Inc.*, C.A. No. 09-cv-2578, to mean "that the device use only flash memory, not RAM or any other memory system, which engaging the CODEC, DSP (as applicable), and memory control functions, as well as storing the fully-manipulated data." The Court further found that fairness and public policy favor application of issue preclusion in this matter. (Dkt#43).

4. In view of the construction of the limitation "sole memory of the received processed sound electrical signals" and the operation of the Accused

Products, the Parties agree that ZTE has not infringed and does not infringe directly and/or indirectly, independent claims 33 and 34, and dependent claims 2, 3, 6 through 8, 10, 15, 16, 18, 23 through 26, and 28 through 31 of the '774 patent, independent claim 2 of the '108 patent, and any other claims depending therefrom. The parties therefore agree that the Court may enter a non-final partial judgment finding that ZTE has not and does not infringe directly and/or indirectly, independent claims 33 and 34, and dependent claims 2, 3, 6 through 8, 10, 15, 16, 18, 23 through 26, and 28 through 31 of the '774 patent, independent claim 2 of the '108 patent, and any other claims depending therefrom.

5. It is provided, however, that if the Court's findings as set forth in Collateral Estoppel Order are reversed, changed, or modified on appeal such that the matter is remanded for further consideration in any respect, the Parties reserve all of their claims, arguments, and defenses.

6. ZTE (USA) hereby dismisses without prejudice its Counterclaims of patent invalidity with respect to the '774 patent and the '108 patent, except as those claims relate to a claim for attorneys' fees and/or costs, and further reserves the right to re-assert all such counterclaims and defenses should e.Digital or any successor in interest accuse ZTE of infringement of the '774 or the '108 patent at any later point in time.

7. Accordingly, the Court enters this Stipulated Partial Judgment of Non-Infringement (a) in favor of ZTE on e.Digital's claim for infringement of claims 33 and 34 of the '774 patent, claim 2 of the '108 patent, and any other claims depending therefrom. (Dkt #1) , and (b) in favor of ZTE (USA) on its Counterclaims for declarations of non-infringement of independent claims 33 and 34, claim 2 of the '108 patent, and any other claims depending therefrom (Dkt#31).

8. This non-final Stipulated Partial Judgment of Non-Infringement is without prejudice to the Parties' rights to appeal the Court's Collateral Estoppel

Order and/or any prior or future orders issued by the Court and is without prejudice to any claim for attorneys' fees and/or costs under any basis, including without limitation Federal Rule of Civil Procedure ("FRCP") Rule 11, FRCP Rule 54(d) and 35 U.S.C. § 285.

9. All issues relating to fees and costs are reserved pending the outcome of the Parties' dispute concerning U.S. Patent No. 5,742,737 and U.S. Patent No. 5,842,170, and the deadlines for filing any and all motions seeking fees and/or costs shall be set by the Court after the parties' dispute as to the '737 and '170 patents are resolved.

10. For the sake of clarity, this Stipulated Partial Judgment of Non-Infringement is not a final judgment pursuant FRCP 54(b) and, if so necessary, is to be merged and/or become part of any final judgment entered in this matter and may be incorporated as an exhibit thereto.

Dated: 10-17-13

UNITED STATES DISTRICT JUDGE

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA

IN RE: E.DIGITAL CASES	Case nos. 12cv2698-DMS (WVG) 12cv2701-DMS (WVG) 12cv2825-DMS (WVG) 12cv2877-DMS (WVG) 12cv2891-DMS (WVG) 12cv2899-DMS (WVG) 12cv2997-DMS (WVG) 13cv0023-DMS (WVG) 13cv0112-DMS (WVG) 13cv0356-DMS (WVG) 13cv0780-DMS (WVG) 13cv0781-DMS (WVG) 13cv0782-DMS (WVG) 13cv0783-DMS (WVG) 13cv0785-DMS (WVG) **ORDER GRANTING DEFENDANTS' MOTION TO APPLY COLLATERAL ESTOPPEL**

In the above-captioned patent infringement actions, Defendants filed a motion to apply collateral estoppel regarding a claim construction ruling against Plaintiff e.Digital Corporation ("e.Digital") in a prior case. Plaintiff filed an opposition and Defendants replied. On July 26, 2013, the matter came on for hearing. Anton Handal argued on behalf of Plaintiff and Kevin O'Shea argued on behalf of Defendants. For the reasons which follow, Defendants' motion is granted.

In February 2010, e.Digital filed a patent infringement action in the United States District Court for the District of Colorado against 28 defendants, including Pentax of America, Inc. (*e.Digital Corp. v. Pentax of Am.*, Case No. 09-cv-2578-MSK-MJW) ("*Pentax*") for infringing three patents, including a patent at issue in the present actions, to wit, U.S. Patent No. 5,491,774 ('774 patent). On June 28, 2011, the *Pentax* court issued a claim construction order regarding the '774 patent, construing the phrase "flash memory module which operates as sole memory of the received processed sound electrical signals" in claims 1 and 19 of the patent. (Defs' Ex. 5 (Opinion and Order Regarding Claim Construction).) e.Digital then settled and voluntarily dismissed the case against all defendants pursuant to a series of orders granting joint motions for dismissal with prejudice.

The same claim limitation is at issue in the cases pending in this Court. Defendants argue e.Digital is collaterally estopped from arguing for any other construction of the claim at issue. In addition, defendants argue the claim construction adopted by the court in *Pentax* applies to U.S. Patent No. 5,839,108 ('108 patent), even though that patent was not at issue in *Pentax*.

The term "issue preclusion" encompasses the doctrine once known as "collateral estoppel." *Taylor v. Sturgell*, 553 U.S. 880, 892 n.5 (2008). "Issue preclusion ... bars successive litigation of an issue of fact or law actually litigated and resolved in a valid court determination essential to the prior judgment ... ." *Id.* at 893 (internal quotation marks and citations omitted).

Issue preclusion, of course, is not unique to patent cases. *Aspex Eyewear, Inc. v. Zenni Optical Inc.*, 713 F.3d 1377, 1380 (Fed. Cir. 2013). Accordingly, the Federal Circuit is "guided by the precedent of the regional circuit. However, for any aspects that may have special or unique application to patent cases, Federal Circuit precedent is applicable." *Id.*

In the Ninth Circuit, issue preclusion applies when

> (1) the issue necessarily decided at the previous proceeding is identical to the one which is sought to be relitigated; (2) the first proceeding ended with a final judgment on the merits; and (3) the party against whom issue preclusion is asserted was a party or in privity with a party at the first proceeding.

Paulo v. Holder, 669 F.3d 911, 917 (9th Cir. 2011) (internal quotation marks, citation and brackets omitted). It is undisputed the third element of issue preclusion is met here as the party against whom

preclusive effect is sought, e.Digital, was a party in *Pentax*. However, the first and second elements of issue preclusion are disputed, and they are addressed in turn.

e.Digital argues issue preclusion does not apply because the claim construction issues adjudicated in *Pentax* are not identical to those presented here. After the claim construction order issued in *Pentax*, the '774 patent was subject to an *ex parte* reexamination before the United States Patent and Trademark Office ("USPTO"), in which claims 1 and 19 construed in *Pentax* were canceled as anticipated by prior art and new claims 33 and 34 were issued in their place.[1] (*See* Defs' Ex. 7 (Final Action in *Ex Parte* Reexamination) & Pl.'s Exs. 6 (Notice of Intent to Issue *Ex Parte* Reexamination Certificate) & 3 (*Ex Parte* Reexamination Certificate).)

An intervening reexamination does not terminate the preclusive effect of a prior judgment when the amended or added claims are not material to the issues presented in the subsequent lawsuit. *See Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335, 1340-41 (Fed. Cir. 2012) (preclusion applies because the claims at issue were "merely new versions of claims that were part of the ... patent prior to its reexamination"). Federal Circuit law applies when determining whether a reexamination materially changed claims at issue in subsequent litigation. *See id.* at 1341 n.1.

e.Digital contends it should not be precluded from advocating a different construction of the term construed in *Pentax* because this Court should consider the reexamination history which was not available to the *Pentax* court and is material to construing the claim limitation at issue. e.Digital argues the reexamination history is material because it is replete with references to the presence of RAM,[2] and is therefore inconsistent with the claim construction in *Pentax*. The Court disagrees.

The claimed invention is "[a] record/playback device for use with a removable, interchangeable, flash memory recording medium which enables extended recording comparable with tape cassette dictating equipment" comprised of several elements listed in claims 1 and 19, one of which is a flash

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[1] e.Digital alleges that various Defendants infringe claims 33 and 34 of the '774 patent. However, on June 26, 2013, e.Digital served its disclosure of asserted claims and preliminary infringement contentions pursuant to Patent Local Rule 3.1 and the May 30, 2013 Order After Case Management Conference, which directed e.Digital to limit its asserted claims to no more than five per patent. e.Digital included claim 33 for the '774 patent, but not claim 34. (Opp'n at 12 n.1.) Accordingly, only claim 33 is at issue at this time. e.Digital concedes, however, that the "differences between canceled claim 19 and new claim 34 are identical to the differences between claims 1 and 33." (*Id.*)

[2] RAM is an acronym for random access memory.

memory module. (*See* Defs' Ex. 1, '774 patent, claim 1 at 10:55-58 & 11:7-12; claim 19 at 12:31-34 & 12:54-57.)[3] The court in *Pentax* was asked to construe the phrase "a flash memory module which operates as sole memory of the received processed sound electrical signals" (referred to as the "sole memory limitation"). (Defs' Ex. 5 at 15-16.) The parties disagreed whether "sole memory of the received processed sound electrical signals" referred to the use of flash memory as the sole means of storing data resulting from completion of the various processing stages performed by the device, as contended by e.Digital, or to the sole writable memory in the device, so that no RAM could be used at any point in the device's operation, as contended by the defendants. (*Id*. at 6-7.) The Court construed the phrase in defendants' favor, as follows:

> The phrase "received processed sound electrical signals" refers to the electrical signals that have been generated by the microphone and passed through the amplifier and gain control circuits, but have yet to be converted by the CODEC.[4] The remainder of the disputed language requires that the device use only flash memory, not RAM or any other memory system, while engaging the CODEC, DSP[5] (as applicable), and memory control functions, as well as storing the fully-manipulated data.

(*Id*. at 16 (footnotes added).)

In contrast to the sole memory limitation addressed in *Pentax*, the reexamination before the USPTO addressed the limitation, "power source coupled to the control circuitry for supplying electrical power to the device." The proceedings did not involve any discussion of memory, as is evident from the reexamination documents submitted by the parties. (*See* Pl.'s Exs. 4 (*Ex Parte* Reexamination Interview Summary) & 5 (excepts from the Response in *Ex Parte* Reexamination); Defs' Exs. 11 (Decl. of Mark Gurries dated Dec. 20. 2011) & 7 (Final Office Action in *Ex Parte* Reexamination); Pl.'s Exs. 6 (Notice of Intent to Issue *Ex Parte* Reexamination Certificate) & 3 (*Ex Parte* Reexamination Certificate).)

Nevertheless, e.Digital contends the reexamination history "is replete with references to the presence of RAM ... to support microprocessor operations." (Opp'n at 9.) This contention is based

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[3] These portions of the patent remained unchanged after reexamination. (*Cf*. Pl.'s Ex. 3, '774 Patent, claim 33 at 2:58-61 & 3:10-15; claim 34 at 3:34-37 & 4:16-19.)

[4] CODEC is an analog-to-digital converter circuit. (*Id*. at 3-4.)

[5] DSP is an acronym for digital signal processor or digital support processor, and is another circuit comprising the device. (*Id*. at 4.)

solely on the depiction of RAM in the figures submitted by e.Digital to facilitate the discussion of "control circuitry" in relation to powering the device. The presence of RAM, or the requirement of flash memory as the sole memory, was not the subject of the reexamination, was not discussed with the examiner, and was not addressed by the reexamination certificate.

e.Digital argues that the USPTO examiner, who was aware of the *Pentax* litigation, relied in part on incorporation of a microprocessor in allowing new independent claims 33 and 34 in lieu of old claims 1 and 19.[6] According to e.Digial, a microprocessor requires RAM to support its applications. (*Id*. at 10.) e.Digital argues that the addition of the microprocessor creates an inconsistency with, and broadens, the *Pentax* claim construction through reexamination.

But the microprocessor was not a new element added in reexamination, as it had been originally included in dependent claims 15 and 16, which remained unchanged in reexamination. (Defs' Ex. 1 at 12:10-19.) After reexamination, the microprocessor was also included in new independent claims 33 and 34. (*See* Pl.'s Ex. 3 at 3:3-4, 3:27, 4:5 & 4:33.) Moreover, while the *Pentax* court considered the use of RAM to support microprocessor applications as e.Digital suggests, it expressly rejected the argument. (Defs' Ex. 5 at 13-15.) e.Digital's contention that it could broaden the *Pentax* claim construction through reexamination, is foreclosed by 35 U.S.C. Section 305 (prohibiting enlarging claim scope in reexamination) and *In re Freeman*, 30 F.3d 1459 (Fed. Cir. 1994) (reexamination cannot serve as an "end run" around district court claim construction).

For the foregoing reasons, the reexamination had no effect on the claim construction in *Pentax*. Although claims 1 and 19 were replaced by claims 33 and 34, they differ in the addition of limitations relating to the supply of electrical power to the device (*cf*. Defs' Ex. 1 at 10:54-11:16 & 12:31-61 & Pl.'s Ex. 3 at 2:58-3:32 & 3:34-4:38 (additions at 3:3-4, 3:20-33, 4:5-6 & 4:26-39)), while the sole memory limitation construed in *Pentax* remained the same (*cf*. Defs' Ex. 1 at 11:7-12, 12:54-57 & Pl.'s Ex. 3 at 3:10-15, 4:16-19). Accordingly, the issue litigated in *Pentax* is identical to the issue presented here because it calls for the construction of the same claim term in the same patent in the same context.

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[6] *See* Defs' Ex. 8 (e.Digital's Information Disclosure Statement). Although the examiner was made aware of *Pentax*, e.Digital does not point to any part of the reexamination history discussing it.

e.Digital next contends the '108 patent was not construed in *Pentax*, therefore the issues adjudicated in *Pentax* are not identical to those presented here. e.Digital does not dispute that independent claims 2 and 5 of the '108 patent contain the same sole memory limitation construed in *Pentax* and that the '108 patent is closely related to the '774 patent.

It is true that "separate patents describe 'separate and distinct [inventions],' ... and it can not be presumed that related patents rise and fall together." *Comair Rotron, Inc. v. Nippon Densan Corp.*, 49 F.3d 1535, 1539 (Fed. Cir. 1995) (brackets in original), quoting 35 U.S.C. § 121 & 37 C.F.R. § 1.141. However, "the same term or phrase should be interpreted consistently where it appears in claims of common ancestry." *Epcon Gas Sys., Inc. v. Bauer Compressors, Inc.*, 279 F.3d 1022, 1031 (Fed. Cir. 2002). Although the '108 patent does not originate in the same patent application as the '774 patent, it is undisputed the patents are closely related.

Like the '774 patent, the '108 patent claims "[a] record/playback device for use with a removable, interchangeable, flash memory recording medium which enables extended voice recording comparable with tape cassette dictating equipment." (Defs' Ex. 3 at 11:37-40.) The two patents share the same inventor, Norbert P. Daberko. According to the prosecution history, the invention claimed by the '108 patent "provides an improvement over the system of [the '774 patent], which improvement appears to be limited to the incorporation of a second microphone element utilized to cancel noise received at the first microphone element ... to provide better sound quality." (Defs' Ex. 4 at 3 (Notice of Allowability).) At oral argument e.Digital admitted that "the '108 [patent] embraces the prosecution file history and the devices of [the] '774 [patent]." (Reporter's Transcript at 24.) Indeed, the '108 patent incorporates by reference the materials disclosed in the '774 patent (Defs' Ex. 3 at 1:3 & 2:45), references the '774 patent throughout (*see, e.g.*, at 7:22-23), and includes a detailed description of the '774 patent by including word-for-word almost its entire specification (*id*. at 4:52-6:55; *cf*. Defs' Ex. 1 at 3:53-6:53) to better understand "the improvements provided by the present invention," including improvement in the microphone input with the addition of a noise cancelling microphone (*id*. at 5:55; 7:1 *et seq*.). With the exception of incorporating a second microphone and specifying that the device is for voice instead of music recording, claim 2 of the '108 patent and claim 1 of the '774 patent are identical, including the same sole memory limitation. Claim 5 of the '108 patent and claim 19 of the

'774 patent differ, in that claim 5 specifies it is for music recording and playback comparable with compact disc quality equipment and explains how this is accomplished by using two microphones and two channels. (*Cf.* Defs' Ex. 3 at 11:37-12:7 (claim 2) & 12:19-55 (claim 5) with Defs' Ex. 1 at 10:54-11:16 (claim 1) & 12:31-61 (claim 19). The differences, however, have no bearing on the sole memory limitation.

e.Digital points to Figures 3 and 4 of the '108 patent which reference SRAM[7] to suggest that the sole memory limitation should be construed differently from the construction rendered in *Pentax*. It also contends that this Court should consider the '108 patent prosecution history in construing the term anew. Notwithstanding the figures and the detailed comparison in the specification between the '774 patent and the '108 patent, the specification, including the discussion of the figures, does not mention SRAM. To the contrary, the discussion of prior art touts the benefits of using flash drive over RAM. (*See, e.g.*, Defs' Ex. 3 at 1:26 -2:41.)

Accordingly, the *Pentax* court's detailed review of prior art and analysis of the specification of the '774 patent, both of which are incorporated in the '108 patent, is equally applicable to the '108 patent. (*See* Defs' Ex. 5 at 9-12.) Although e.Digial suggests the '108 patent prosecution history may contradict the *Pentax* construction of the sole memory limitation, it offers nothing to negate the examiner's observation in the Notice of Allowability that the only apparent improvement offered by the '108 patent over the '774 patent is the addition of noise cancellation to improve sound quality. e.Digital's argument that the claim construction issue decided in *Pentax* is not identical to the issue presented here is therefore rejected.

e.Digital further argues that issue preclusion does not apply because the *Pentax* litigation did not end with a final judgment on the merits. It is undisputed *Pentax* proceeded through claim construction discovery, including expert discovery, claim construction briefing, and a full-day claim construction hearing, including testimony by the lead inventor and expert witnesses, and attorney argument. At the hearing e.Digital argued the sole memory limitation was the "core issue" in the case. (Defs' Ex. 5 at 2-3.) e.Digital also did not object to the defendants' statement that there would be no need to construe the remaining disputed terms, if the sole memory limitation was construed in the defendants' favor. (*Id.*)

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[7] SRAM is an acronym for Static Random Access Memory.

Accordingly, the parties understood the importance of the sole memory limitation and were motivated to litigate it to the fullest. Based on the parties' representations, the court considered the sole memory limitation to be "case dispositive." (*Id*. at 16.) It issued a thoroughly-reasoned 16-page opinion rejecting e.Digital's proposed construction, and ordered the parties to file a joint statement identifying any remaining issues to be decided in the case. (*Id*.) In the joint statement, e.Digital agreed to stipulate to non-infringement as to certain defendants in light of the claim construction, and requested discovery to decide whether to stipulate with the remaining defendants as well. (Defs' Ex. 10.) Subsequently e.Digital settled with each remaining defendant and dismissed the case with prejudice pursuant to joint motions and orders of dismissal. (*See Pentax* docket nos. 399-423.) The claim construction order was not vacated.

Issue preclusion was applied in *Hartley v. Mentor Corp.*, 869 F.2d 1469 (Fed. Cir. 1989), under similar circumstances. There, the court applied Ninth Circuit law and accorded preclusive effect to a summary judgment ruling of patent invalidity where the plaintiff settled after the unfavorable ruling and entered into a stipulated judgment dismissing the action with prejudice. As here, the issue on which preclusion was sought *in Hartley* had been litigated in the prior action, a ruling unfavorable to the plaintiff was issued, and the plaintiff then settled the action and dismissed it with prejudice without vacating the invalidity ruling. Thereafter, issue preclusion was asserted against Hartley in subsequent litigation by a defendant not a party to the prior action. *Id*. at 1471. Where, as here, a stipulated dismissal is consistent with a prior ruling and the ruling is not vacated, the settlement and dismissal do not nullify the issue preclusive effect of the ruling so long as the parties had a full and fair opportunity to litigate the issues resolved therein. *Id*. at 1472-73. Like here, the plaintiff in *Hartley* did not enter into a consent decree, but settled and dismissed the claim with prejudice.[8] *Id*. at 1473. Such dismissal "operates as an adverse adjudication on the merits of a claim." *Id*.; *see also The Rio Grande, El Paso and Santa Fe R.R. Co. v. Dep't. of Energy*, 234 F.3d 1, 7 (Fed. Cir. 2000), citing *Hartley*, 869 F.2d at

[8] When a dismissal is consistent with a fully-litigated ruling, the Court sees no principled difference for purposes of issue preclusion between a stipulated judgment dismissing the action with prejudice and an order dismissing the action with prejudice based on the parties' joint motion after settlement. *See Hallco Mfg. Co., Inc. v. Foster*, 256 F.3d 1290, 1297 (Fed. Cir. 2001) ("there is no legally dispositive difference for claim preclusion purposes between a consent judgment based on a settlement []which ... included a provision dismissing the case,[] and a dismissal with prejudice which is based on a settlement").

1473 (a Rule 41(a) dismissal with prejudice pursuant to a negotiated settlement is an adverse adjudication on the merits). Based on the foregoing, the Court rejects e.Digital's argument that the *Pentax* claim construction order is not sufficiently final.

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Finally, e.Digital contends issue preclusion should not apply in this case for reasons of policy and fairness. "The doctrine of issue preclusion is premised on principles of fairness." *Freeman*, 30 F.3d at 1467, citing *Blonder-Tongue Lab., Inc. v. Univ. of Ill. Found.*, 402 U.S. 313, 349 (1971). "Thus, a court is not without some discretion to decide whether a particular case is appropriate for application of the doctrine." *Freeman*, 30 F.3d at 1467. e.Digital contends that the Court should postpone ruling on this motion until after the parties have had an opportunity to conduct claim construction discovery and present expert testimony regarding the effect of reexamination on the '774 patent. The Court declines to do so.

The policies underlying issue preclusion favor granting defendants' motion before significant resources are expended addressing previously litigated issues. The Court is mindful that it must ensure that application of issue preclusion will not deprive a party of its "day in court," *see Taylor*, 553 U.S. at 893, and that the party against whom issue preclusion is asserted has had a full and fair opportunity to litigate the issue in the prior action. *Blonder-Tongue*, 402 U.S. at 329. e.Digital has had a full and fair opportunity to litigate the sole memory limitation in *Pentax*. The litigation included discovery, briefing, and a full-blown hearing with witness testimony and attorney argument, followed by a well-

reasoned written decision from the court. e.Digital had every reason to (and did) present its best case, as both parties understood the case-dispositive nature of the claim construction at issue.

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For these reasons, the Court finds the elements of issue preclusion are met and preclude e.Digital from relitigating construction of the sole memory limitation in claims 33 and 34 of the '774 patent and

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claims 2 and 5 of the '108 patent. Fairness and public policy favor application of issue preclusion here. Accordingly, defendants' motion is granted.

IT IS SO ORDERED.

DATED: August 21, 2013

HON. DANA M. SABRAW
United States District Judge

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

IN RE: E.DIGITAL CASES

Case nos.

12cv2698-DMS (WVG)
12cv2701-DMS (WVG)
12cv2825-DMS (WVG)
12cv2877-DMS (WVG)
12cv2891-DMS (WVG)
12cv2899-DMS (WVG)
12cv2997-DMS (WVG)
13cv0023-DMS (WVG)
13cv0112-DMS (WVG)
13cv0356-DMS (WVG)
13cv0780-DMS (WVG)
13cv0781-DMS (WVG)
13cv0782-DMS (WVG)
13cv0783-DMS (WVG)
13cv0785-DMS (WVG)

ORDER GRANTING DEFENDANTS' MOTION TO APPLY COLLATERAL ESTOPPEL

In the above-captioned patent infringement actions, Defendants filed a motion to apply collateral estoppel regarding a claim construction ruling against Plaintiff e.Digital Corporation ("e.Digital") in a prior case. Plaintiff filed an opposition and Defendants replied. On July 26, 2013, the matter came on for hearing. Anton Handal argued on behalf of Plaintiff and Kevin O'Shea argued on behalf of Defendants. For the reasons which follow, Defendants' motion is granted.

In February 2010, e.Digital filed a patent infringement action in the United States District Court for the District of Colorado against 28 defendants, including Pentax of America, Inc. (*e.Digital Corp. v. Pentax of Am.*, Case No. 09-cv-2578-MSK-MJW) ("*Pentax*") for infringing three patents, including a patent at issue in the present actions, to wit, U.S. Patent No. 5,491,774 ('774 patent). On June 28, 2011, the *Pentax* court issued a claim construction order regarding the '774 patent, construing the phrase "flash memory module which operates as sole memory of the received processed sound electrical signals" in claims 1 and 19 of the patent. (Defs' Ex. 5 (Opinion and Order Regarding Claim Construction).) e.Digital then settled and voluntarily dismissed the case against all defendants pursuant to a series of orders granting joint motions for dismissal with prejudice.

The same claim limitation is at issue in the cases pending in this Court. Defendants argue e.Digital is collaterally estopped from arguing for any other construction of the claim at issue. In addition, defendants argue the claim construction adopted by the court in *Pentax* applies to U.S. Patent No. 5,839,108 ('108 patent), even though that patent was not at issue in *Pentax*.

The term "issue preclusion" encompasses the doctrine once known as "collateral estoppel." *Taylor v. Sturgell*, 553 U.S. 880, 892 n.5 (2008). "Issue preclusion ... bars successive litigation of an issue of fact or law actually litigated and resolved in a valid court determination essential to the prior judgment ... ." *Id.* at 893 (internal quotation marks and citations omitted).

Issue preclusion, of course, is not unique to patent cases. *Aspex Eyewear, Inc. v. Zenni Optical Inc.*, 713 F.3d 1377, 1380 (Fed. Cir. 2013). Accordingly, the Federal Circuit is "guided by the precedent of the regional circuit. However, for any aspects that may have special or unique application to patent cases, Federal Circuit precedent is applicable." *Id.*

In the Ninth Circuit, issue preclusion applies when

> (1) the issue necessarily decided at the previous proceeding is identical to the one which is sought to be relitigated; (2) the first proceeding ended with a final judgment on the merits; and (3) the party against whom issue preclusion is asserted was a party or in privity with a party at the first proceeding.

Paulo v. Holder, 669 F.3d 911, 917 (9th Cir. 2011) (internal quotation marks, citation and brackets omitted). It is undisputed the third element of issue preclusion is met here as the party against whom

preclusive effect is sought, e.Digital, was a party in *Pentax*. However, the first and second elements of issue preclusion are disputed, and they are addressed in turn.

e.Digital argues issue preclusion does not apply because the claim construction issues adjudicated in *Pentax* are not identical to those presented here. After the claim construction order issued in *Pentax*, the '774 patent was subject to an *ex parte* reexamination before the United States Patent and Trademark Office ("USPTO"), in which claims 1 and 19 construed in *Pentax* were canceled as anticipated by prior art and new claims 33 and 34 were issued in their place.[1] (*See* Defs' Ex. 7 (Final Action in *Ex Parte* Reexamination) & Pl.'s Exs. 6 (Notice of Intent to Issue *Ex Parte* Reexamination Certificate) & 3 (*Ex Parte* Reexamination Certificate).)

An intervening reexamination does not terminate the preclusive effect of a prior judgment when the amended or added claims are not material to the issues presented in the subsequent lawsuit. *See Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335, 1340-41 (Fed. Cir. 2012) (preclusion applies because the claims at issue were "merely new versions of claims that were part of the ... patent prior to its reexamination"). Federal Circuit law applies when determining whether a reexamination materially changed claims at issue in subsequent litigation. *See id.* at 1341 n.1.

e.Digital contends it should not be precluded from advocating a different construction of the term construed in *Pentax* because this Court should consider the reexamination history which was not available to the *Pentax* court and is material to construing the claim limitation at issue. e.Digital argues the reexamination history is material because it is replete with references to the presence of RAM,[2] and is therefore inconsistent with the claim construction in *Pentax*. The Court disagrees.

The claimed invention is "[a] record/playback device for use with a removable, interchangeable, flash memory recording medium which enables extended recording comparable with tape cassette dictating equipment" comprised of several elements listed in claims 1 and 19, one of which is a flash

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[1] e.Digital alleges that various Defendants infringe claims 33 and 34 of the '774 patent. However, on June 26, 2013, e.Digital served its disclosure of asserted claims and preliminary infringement contentions pursuant to Patent Local Rule 3.1 and the May 30, 2013 Order After Case Management Conference, which directed e.Digital to limit its asserted claims to no more than five per patent. e.Digital included claim 33 for the '774 patent, but not claim 34. (Opp'n at 12 n.1.) Accordingly, only claim 33 is at issue at this time. e.Digital concedes, however, that the "differences between canceled claim 19 and new claim 34 are identical to the differences between claims 1 and 33." (*Id.*)

[2] RAM is an acronym for random access memory.

memory module. (*See* Defs' Ex. 1, '774 patent, claim 1 at 10:55-58 & 11:7-12; claim 19 at 12:31-34 & 12:54-57.)[3] The court in *Pentax* was asked to construe the phrase "a flash memory module which operates as sole memory of the received processed sound electrical signals" (referred to as the "sole memory limitation"). (Defs' Ex. 5 at 15-16.) The parties disagreed whether "sole memory of the received processed sound electrical signals" referred to the use of flash memory as the sole means of storing data resulting from completion of the various processing stages performed by the device, as contended by e.Digital, or to the sole writable memory in the device, so that no RAM could be used at any point in the device's operation, as contended by the defendants. (*Id*. at 6-7.) The Court construed the phrase in defendants' favor, as follows:

> The phrase "received processed sound electrical signals" refers to the electrical signals that have been generated by the microphone and passed through the amplifier and gain control circuits, but have yet to be converted by the CODEC.[4] The remainder of the disputed language requires that the device use only flash memory, not RAM or any other memory system, while engaging the CODEC, DSP[5] (as applicable), and memory control functions, as well as storing the fully-manipulated data.

(*Id*. at 16 (footnotes added).)

In contrast to the sole memory limitation addressed in *Pentax*, the reexamination before the USPTO addressed the limitation, "power source coupled to the control circuitry for supplying electrical power to the device." The proceedings did not involve any discussion of memory, as is evident from the reexamination documents submitted by the parties. (*See* Pl.'s Exs. 4 (*Ex Parte* Reexamination Interview Summary) & 5 (excepts from the Response in *Ex Parte* Reexamination); Defs' Exs. 11 (Decl. of Mark Gurries dated Dec. 20. 2011) & 7 (Final Office Action in *Ex Parte* Reexamination); Pl.'s Exs. 6 (Notice of Intent to Issue *Ex Parte* Reexamination Certificate) & 3 (*Ex Parte* Reexamination Certificate).)

Nevertheless, e.Digital contends the reexamination history "is replete with references to the presence of RAM ... to support microprocessor operations." (Opp'n at 9.) This contention is based

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[3] These portions of the patent remained unchanged after reexamination. (*Cf*. Pl.'s Ex. 3, '774 Patent, claim 33 at 2:58-61 & 3:10-15; claim 34 at 3:34-37 & 4:16-19.)

[4] CODEC is an analog-to-digital converter circuit. (*Id*. at 3-4.)

[5] DSP is an acronym for digital signal processor or digital support processor, and is another circuit comprising the device. (*Id*. at 4.)

solely on the depiction of RAM in the figures submitted by e.Digital to facilitate the discussion of "control circuitry" in relation to powering the device. The presence of RAM, or the requirement of flash memory as the sole memory, was not the subject of the reexamination, was not discussed with the examiner, and was not addressed by the reexamination certificate.

e.Digital argues that the USPTO examiner, who was aware of the *Pentax* litigation, relied in part on incorporation of a microprocessor in allowing new independent claims 33 and 34 in lieu of old claims 1 and 19.[6] According to e.Digial, a microprocessor requires RAM to support its applications. (*Id*. at 10.) e.Digital argues that the addition of the microprocessor creates an inconsistency with, and broadens, the *Pentax* claim construction through reexamination.

But the microprocessor was not a new element added in reexamination, as it had been originally included in dependent claims 15 and 16, which remained unchanged in reexamination. (Defs' Ex. 1 at 12:10-19.) After reexamination, the microprocessor was also included in new independent claims 33 and 34. (*See* Pl.'s Ex. 3 at 3:3-4, 3:27, 4:5 & 4:33.) Moreover, while the *Pentax* court considered the use of RAM to support microprocessor applications as e.Digital suggests, it expressly rejected the argument. (Defs' Ex. 5 at 13-15.) e.Digital's contention that it could broaden the *Pentax* claim construction through reexamination, is foreclosed by 35 U.S.C. Section 305 (prohibiting enlarging claim scope in reexamination) and *In re Freeman*, 30 F.3d 1459 (Fed. Cir. 1994) (reexamination cannot serve as an "end run" around district court claim construction).

For the foregoing reasons, the reexamination had no effect on the claim construction in *Pentax*. Although claims 1 and 19 were replaced by claims 33 and 34, they differ in the addition of limitations relating to the supply of electrical power to the device (*cf*. Defs' Ex. 1 at 10:54-11:16 & 12:31-61 & Pl.'s Ex. 3 at 2:58-3:32 & 3:34-4:38 (additions at 3:3-4, 3:20-33, 4:5-6 & 4:26-39)), while the sole memory limitation construed in *Pentax* remained the same (*cf*. Defs' Ex. 1 at 11:7-12, 12:54-57 & Pl.'s Ex. 3 at 3:10-15, 4:16-19). Accordingly, the issue litigated in *Pentax* is identical to the issue presented here because it calls for the construction of the same claim term in the same patent in the same context.

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[6] *See* Defs' Ex. 8 (e.Digital's Information Disclosure Statement). Although the examiner was made aware of *Pentax*, e.Digital does not point to any part of the reexamination history discussing it.

e.Digital next contends the ‘108 patent was not construed in *Pentax*, therefore the issues adjudicated in *Pentax* are not identical to those presented here. e.Digital does not dispute that independent claims 2 and 5 of the ‘108 patent contain the same sole memory limitation construed in *Pentax* and that the ‘108 patent is closely related to the ‘774 patent.

It is true that “separate patents describe ‘separate and distinct [inventions],’ ... and it can not be presumed that related patents rise and fall together.” *Comair Rotron, Inc. v. Nippon Densan Corp.*, 49 F.3d 1535, 1539 (Fed. Cir. 1995) (brackets in original), quoting 35 U.S.C. § 121 & 37 C.F.R. § 1.141. However, “the same term or phrase should be interpreted consistently where it appears in claims of common ancestry.” *Epcon Gas Sys., Inc. v. Bauer Compressors, Inc.*, 279 F.3d 1022, 1031 (Fed. Cir. 2002). Although the ‘108 patent does not originate in the same patent application as the ‘774 patent, it is undisputed the patents are closely related.

Like the ‘774 patent, the ‘108 patent claims “[a] record/playback device for use with a removable, interchangeable, flash memory recording medium which enables extended voice recording comparable with tape cassette dictating equipment.” (Defs’ Ex. 3 at 11:37-40.) The two patents share the same inventor, Norbert P. Daberko. According to the prosecution history, the invention claimed by the ‘108 patent “provides an improvement over the system of [the ‘774 patent], which improvement appears to be limited to the incorporation of a second microphone element utilized to cancel noise received at the first microphone element ... to provide better sound quality.” (Defs’ Ex. 4 at 3 (Notice of Allowability).) At oral argument e.Digital admitted that “the ‘108 [patent] embraces the prosecution file history and the devices of [the] ‘774 [patent].” (Reporter’s Transcript at 24.) Indeed, the ‘108 patent incorporates by reference the materials disclosed in the ‘774 patent (Defs’ Ex. 3 at 1:3 & 2:45), references the ‘774 patent throughout (*see, e.g.*, at 7:22-23), and includes a detailed description of the ‘774 patent by including word-for-word almost its entire specification (*id*. at 4:52-6:55; *cf*. Defs’ Ex. 1 at 3:53-6:53) to better understand “the improvements provided by the present invention,” including improvement in the microphone input with the addition of a noise cancelling microphone (*id*. at 5:55; 7:1 *et seq*.). With the exception of incorporating a second microphone and specifying that the device is for voice instead of music recording, claim 2 of the ‘108 patent and claim 1 of the ‘774 patent are identical, including the same sole memory limitation. Claim 5 of the ‘108 patent and claim 19 of the

'774 patent differ, in that claim 5 specifies it is for music recording and playback comparable with compact disc quality equipment and explains how this is accomplished by using two microphones and two channels. (*Cf.* Defs' Ex. 3 at 11:37-12:7 (claim 2) & 12:19-55 (claim 5) with Defs' Ex. 1 at 10:54-11:16 (claim 1) & 12:31-61 (claim 19). The differences, however, have no bearing on the sole memory limitation.

e.Digital points to Figures 3 and 4 of the '108 patent which reference SRAM[7] to suggest that the sole memory limitation should be construed differently from the construction rendered in *Pentax*. It also contends that this Court should consider the '108 patent prosecution history in construing the term anew. Notwithstanding the figures and the detailed comparison in the specification between the '774 patent and the '108 patent, the specification, including the discussion of the figures, does not mention SRAM. To the contrary, the discussion of prior art touts the benefits of using flash drive over RAM. (*See, e.g.*, Defs' Ex. 3 at 1:26 -2:41.)

Accordingly, the *Pentax* court's detailed review of prior art and analysis of the specification of the '774 patent, both of which are incorporated in the '108 patent, is equally applicable to the '108 patent. (*See* Defs' Ex. 5 at 9-12.) Although e.Digial suggests the '108 patent prosecution history may contradict the *Pentax* construction of the sole memory limitation, it offers nothing to negate the examiner's observation in the Notice of Allowability that the only apparent improvement offered by the '108 patent over the '774 patent is the addition of noise cancellation to improve sound quality. e.Digital's argument that the claim construction issue decided in *Pentax* is not identical to the issue presented here is therefore rejected.

e.Digital further argues that issue preclusion does not apply because the *Pentax* litigation did not end with a final judgment on the merits. It is undisputed *Pentax* proceeded through claim construction discovery, including expert discovery, claim construction briefing, and a full-day claim construction hearing, including testimony by the lead inventor and expert witnesses, and attorney argument. At the hearing e.Digital argued the sole memory limitation was the "core issue" in the case. (Defs' Ex. 5 at 2-3.) e.Digital also did not object to the defendants' statement that there would be no need to construe the remaining disputed terms, if the sole memory limitation was construed in the defendants' favor. (*Id.*)

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[7] SRAM is an acronym for Static Random Access Memory.

Accordingly, the parties understood the importance of the sole memory limitation and were motivated to litigate it to the fullest. Based on the parties' representations, the court considered the sole memory limitation to be "case dispositive." (*Id*. at 16.) It issued a thoroughly-reasoned 16-page opinion rejecting e.Digital's proposed construction, and ordered the parties to file a joint statement identifying any remaining issues to be decided in the case. (*Id*.) In the joint statement, e.Digital agreed to stipulate to non-infringement as to certain defendants in light of the claim construction, and requested discovery to decide whether to stipulate with the remaining defendants as well. (Defs' Ex. 10.) Subsequently e.Digital settled with each remaining defendant and dismissed the case with prejudice pursuant to joint motions and orders of dismissal. (*See Pentax* docket nos. 399-423.) The claim construction order was not vacated.

Issue preclusion was applied in *Hartley v. Mentor Corp.*, 869 F.2d 1469 (Fed. Cir. 1989), under similar circumstances. There, the court applied Ninth Circuit law and accorded preclusive effect to a summary judgment ruling of patent invalidity where the plaintiff settled after the unfavorable ruling and entered into a stipulated judgment dismissing the action with prejudice. As here, the issue on which preclusion was sought *in Hartley* had been litigated in the prior action, a ruling unfavorable to the plaintiff was issued, and the plaintiff then settled the action and dismissed it with prejudice without vacating the invalidity ruling. Thereafter, issue preclusion was asserted against Hartley in subsequent litigation by a defendant not a party to the prior action. *Id*. at 1471. Where, as here, a stipulated dismissal is consistent with a prior ruling and the ruling is not vacated, the settlement and dismissal do not nullify the issue preclusive effect of the ruling so long as the parties had a full and fair opportunity to litigate the issues resolved therein. *Id*. at 1472-73. Like here, the plaintiff in *Hartley* did not enter into a consent decree, but settled and dismissed the claim with prejudice.[8] *Id*. at 1473. Such dismissal "operates as an adverse adjudication on the merits of a claim." *Id*.; *see also The Rio Grande, El Paso and Santa Fe R.R. Co. v. Dep't. of Energy*, 234 F.3d 1, 7 (Fed. Cir. 2000), citing *Hartley*, 869 F.2d at

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[8] When a dismissal is consistent with a fully-litigated ruling, the Court sees no principled difference for purposes of issue preclusion between a stipulated judgment dismissing the action with prejudice and an order dismissing the action with prejudice based on the parties' joint motion after settlement. *See Hallco Mfg. Co., Inc. v. Foster*, 256 F.3d 1290, 1297 (Fed. Cir. 2001) ("there is no legally dispositive difference for claim preclusion purposes between a consent judgment based on a settlement []which ... included a provision dismissing the case,[] and a dismissal with prejudice which is based on a settlement").

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For these reasons, the Court finds the elements of issue preclusion are met and preclude e.Digital from relitigating construction of the sole memory limitation in claims 33 and 34 of the '774 patent and

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claims 2 and 5 of the '108 patent. Fairness and public policy favor application of issue preclusion here. Accordingly, defendants' motion is granted.

IT IS SO ORDERED.

DATED: August 21, 2013

HON. DANA M. SABRAW
United States District Judge

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In the above-captioned patent infringement actions, Defendants filed a motion to apply collateral estoppel regarding a claim construction ruling against Plaintiff e.Digital Corporation ("e.Digital") in a prior case. Plaintiff filed an opposition and Defendants replied. On July 26, 2013, the matter came on for hearing. Anton Handal argued on behalf of Plaintiff and Kevin O'Shea argued on behalf of Defendants. For the reasons which follow, Defendants' motion is granted.

In February 2010, e.Digital filed a patent infringement action in the United States District Court for the District of Colorado against 28 defendants, including Pentax of America, Inc. (*e.Digital Corp. v. Pentax of Am.*, Case No. 09-cv-2578-MSK-MJW) ("*Pentax*") for infringing three patents, including a patent at issue in the present actions, to wit, U.S. Patent No. 5,491,774 ('774 patent). On June 28, 2011, the *Pentax* court issued a claim construction order regarding the '774 patent, construing the phrase "flash memory module which operates as sole memory of the received processed sound electrical signals" in claims 1 and 19 of the patent. (Defs' Ex. 5 (Opinion and Order Regarding Claim Construction).) e.Digital then settled and voluntarily dismissed the case against all defendants pursuant to a series of orders granting joint motions for dismissal with prejudice.

The same claim limitation is at issue in the cases pending in this Court. Defendants argue e.Digital is collaterally estopped from arguing for any other construction of the claim at issue. In addition, defendants argue the claim construction adopted by the court in *Pentax* applies to U.S. Patent No. 5,839,108 ('108 patent), even though that patent was not at issue in *Pentax*.

The term "issue preclusion" encompasses the doctrine once known as "collateral estoppel." *Taylor v. Sturgell*, 553 U.S. 880, 892 n.5 (2008). "Issue preclusion ... bars successive litigation of an issue of fact or law actually litigated and resolved in a valid court determination essential to the prior judgment ... ." *Id.* at 893 (internal quotation marks and citations omitted).

Issue preclusion, of course, is not unique to patent cases. *Aspex Eyewear, Inc. v. Zenni Optical Inc.*, 713 F.3d 1377, 1380 (Fed. Cir. 2013). Accordingly, the Federal Circuit is "guided by the precedent of the regional circuit. However, for any aspects that may have special or unique application to patent cases, Federal Circuit precedent is applicable." *Id.*

In the Ninth Circuit, issue preclusion applies when

> (1) the issue necessarily decided at the previous proceeding is identical to the one which is sought to be relitigated; (2) the first proceeding ended with a final judgment on the merits; and (3) the party against whom issue preclusion is asserted was a party or in privity with a party at the first proceeding.

Paulo v. Holder, 669 F.3d 911, 917 (9th Cir. 2011) (internal quotation marks, citation and brackets omitted). It is undisputed the third element of issue preclusion is met here as the party against whom

preclusive effect is sought, e.Digital, was a party in *Pentax*. However, the first and second elements of issue preclusion are disputed, and they are addressed in turn.

e.Digital argues issue preclusion does not apply because the claim construction issues adjudicated in *Pentax* are not identical to those presented here. After the claim construction order issued in *Pentax*, the '774 patent was subject to an *ex parte* reexamination before the United States Patent and Trademark Office ("USPTO"), in which claims 1 and 19 construed in *Pentax* were canceled as anticipated by prior art and new claims 33 and 34 were issued in their place.[1] (*See* Defs' Ex. 7 (Final Action in *Ex Parte* Reexamination) & Pl.'s Exs. 6 (Notice of Intent to Issue *Ex Parte* Reexamination Certificate) & 3 (*Ex Parte* Reexamination Certificate).)

An intervening reexamination does not terminate the preclusive effect of a prior judgment when the amended or added claims are not material to the issues presented in the subsequent lawsuit. *See Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335, 1340-41 (Fed. Cir. 2012) (preclusion applies because the claims at issue were "merely new versions of claims that were part of the ... patent prior to its reexamination"). Federal Circuit law applies when determining whether a reexamination materially changed claims at issue in subsequent litigation. *See id.* at 1341 n.1.

e.Digital contends it should not be precluded from advocating a different construction of the term construed in *Pentax* because this Court should consider the reexamination history which was not available to the *Pentax* court and is material to construing the claim limitation at issue. e.Digital argues the reexamination history is material because it is replete with references to the presence of RAM,[2] and is therefore inconsistent with the claim construction in *Pentax*. The Court disagrees.

The claimed invention is "[a] record/playback device for use with a removable, interchangeable, flash memory recording medium which enables extended recording comparable with tape cassette dictating equipment" comprised of several elements listed in claims 1 and 19, one of which is a flash

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[1] e.Digital alleges that various Defendants infringe claims 33 and 34 of the '774 patent. However, on June 26, 2013, e.Digital served its disclosure of asserted claims and preliminary infringement contentions pursuant to Patent Local Rule 3.1 and the May 30, 2013 Order After Case Management Conference, which directed e.Digital to limit its asserted claims to no more than five per patent. e.Digital included claim 33 for the '774 patent, but not claim 34. (Opp'n at 12 n.1.) Accordingly, only claim 33 is at issue at this time. e.Digital concedes, however, that the "differences between canceled claim 19 and new claim 34 are identical to the differences between claims 1 and 33." (*Id.*)

[2] RAM is an acronym for random access memory.

memory module. (*See* Defs' Ex. 1, '774 patent, claim 1 at 10:55-58 & 11:7-12; claim 19 at 12:31-34 & 12:54-57.)[3] The court in *Pentax* was asked to construe the phrase "a flash memory module which operates as sole memory of the received processed sound electrical signals" (referred to as the "sole memory limitation"). (Defs' Ex. 5 at 15-16.) The parties disagreed whether "sole memory of the received processed sound electrical signals" referred to the use of flash memory as the sole means of storing data resulting from completion of the various processing stages performed by the device, as contended by e.Digital, or to the sole writable memory in the device, so that no RAM could be used at any point in the device's operation, as contended by the defendants. (*Id*. at 6-7.) The Court construed the phrase in defendants' favor, as follows:

> The phrase "received processed sound electrical signals" refers to the electrical signals that have been generated by the microphone and passed through the amplifier and gain control circuits, but have yet to be converted by the CODEC.[4] The remainder of the disputed language requires that the device use only flash memory, not RAM or any other memory system, while engaging the CODEC, DSP[5] (as applicable), and memory control functions, as well as storing the fully-manipulated data.

(*Id*. at 16 (footnotes added).)

In contrast to the sole memory limitation addressed in *Pentax*, the reexamination before the USPTO addressed the limitation, "power source coupled to the control circuitry for supplying electrical power to the device." The proceedings did not involve any discussion of memory, as is evident from the reexamination documents submitted by the parties. (*See* Pl.'s Exs. 4 (*Ex Parte* Reexamination Interview Summary) & 5 (excepts from the Response in *Ex Parte* Reexamination); Defs' Exs. 11 (Decl. of Mark Gurries dated Dec. 20. 2011) & 7 (Final Office Action in *Ex Parte* Reexamination); Pl.'s Exs. 6 (Notice of Intent to Issue *Ex Parte* Reexamination Certificate) & 3 (*Ex Parte* Reexamination Certificate).)

Nevertheless, e.Digital contends the reexamination history "is replete with references to the presence of RAM ... to support microprocessor operations." (Opp'n at 9.) This contention is based

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[3] These portions of the patent remained unchanged after reexamination. (*Cf*. Pl.'s Ex. 3, '774 Patent, claim 33 at 2:58-61 & 3:10-15; claim 34 at 3:34-37 & 4:16-19.)

[4] CODEC is an analog-to-digital converter circuit. (*Id*. at 3-4.)

[5] DSP is an acronym for digital signal processor or digital support processor, and is another circuit comprising the device. (*Id*. at 4.)

solely on the depiction of RAM in the figures submitted by e.Digital to facilitate the discussion of "control circuitry" in relation to powering the device. The presence of RAM, or the requirement of flash memory as the sole memory, was not the subject of the reexamination, was not discussed with the examiner, and was not addressed by the reexamination certificate.

e.Digital argues that the USPTO examiner, who was aware of the *Pentax* litigation, relied in part on incorporation of a microprocessor in allowing new independent claims 33 and 34 in lieu of old claims 1 and 19.[6] According to e.Digial, a microprocessor requires RAM to support its applications. (*Id*. at 10.) e.Digital argues that the addition of the microprocessor creates an inconsistency with, and broadens, the *Pentax* claim construction through reexamination.

But the microprocessor was not a new element added in reexamination, as it had been originally included in dependent claims 15 and 16, which remained unchanged in reexamination. (Defs' Ex. 1 at 12:10-19.) After reexamination, the microprocessor was also included in new independent claims 33 and 34. (*See* Pl.'s Ex. 3 at 3:3-4, 3:27, 4:5 & 4:33.) Moreover, while the *Pentax* court considered the use of RAM to support microprocessor applications as e.Digital suggests, it expressly rejected the argument. (Defs' Ex. 5 at 13-15.) e.Digital's contention that it could broaden the *Pentax* claim construction through reexamination, is foreclosed by 35 U.S.C. Section 305 (prohibiting enlarging claim scope in reexamination) and *In re Freeman*, 30 F.3d 1459 (Fed. Cir. 1994) (reexamination cannot serve as an "end run" around district court claim construction).

For the foregoing reasons, the reexamination had no effect on the claim construction in *Pentax*. Although claims 1 and 19 were replaced by claims 33 and 34, they differ in the addition of limitations relating to the supply of electrical power to the device (*cf*. Defs' Ex. 1 at 10:54-11:16 & 12:31-61 & Pl.'s Ex. 3 at 2:58-3:32 & 3:34-4:38 (additions at 3:3-4, 3:20-33, 4:5-6 & 4:26-39)), while the sole memory limitation construed in *Pentax* remained the same (*cf*. Defs' Ex. 1 at 11:7-12, 12:54-57 & Pl.'s Ex. 3 at 3:10-15, 4:16-19). Accordingly, the issue litigated in *Pentax* is identical to the issue presented here because it calls for the construction of the same claim term in the same patent in the same context.

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[6] *See* Defs' Ex. 8 (e.Digital's Information Disclosure Statement). Although the examiner was made aware of *Pentax*, e.Digital does not point to any part of the reexamination history discussing it.

e.Digital next contends the '108 patent was not construed in *Pentax*, therefore the issues adjudicated in *Pentax* are not identical to those presented here. e.Digital does not dispute that independent claims 2 and 5 of the '108 patent contain the same sole memory limitation construed in *Pentax* and that the '108 patent is closely related to the '774 patent.

It is true that "separate patents describe 'separate and distinct [inventions],' ... and it can not be presumed that related patents rise and fall together." *Comair Rotron, Inc. v. Nippon Densan Corp.*, 49 F.3d 1535, 1539 (Fed. Cir. 1995) (brackets in original), quoting 35 U.S.C. § 121 & 37 C.F.R. § 1.141. However, "the same term or phrase should be interpreted consistently where it appears in claims of common ancestry." *Epcon Gas Sys., Inc. v. Bauer Compressors, Inc.*, 279 F.3d 1022, 1031 (Fed. Cir. 2002). Although the '108 patent does not originate in the same patent application as the '774 patent, it is undisputed the patents are closely related.

Like the '774 patent, the '108 patent claims "[a] record/playback device for use with a removable, interchangeable, flash memory recording medium which enables extended voice recording comparable with tape cassette dictating equipment." (Defs' Ex. 3 at 11:37-40.) The two patents share the same inventor, Norbert P. Daberko. According to the prosecution history, the invention claimed by the '108 patent "provides an improvement over the system of [the '774 patent], which improvement appears to be limited to the incorporation of a second microphone element utilized to cancel noise received at the first microphone element ... to provide better sound quality." (Defs' Ex. 4 at 3 (Notice of Allowability).) At oral argument e.Digital admitted that "the '108 [patent] embraces the prosecution file history and the devices of [the] '774 [patent]." (Reporter's Transcript at 24.) Indeed, the '108 patent incorporates by reference the materials disclosed in the '774 patent (Defs' Ex. 3 at 1:3 & 2:45), references the '774 patent throughout (*see, e.g.*, at 7:22-23), and includes a detailed description of the '774 patent by including word-for-word almost its entire specification (*id*. at 4:52-6:55; *cf*. Defs' Ex. 1 at 3:53-6:53) to better understand "the improvements provided by the present invention," including improvement in the microphone input with the addition of a noise cancelling microphone (*id*. at 5:55; 7:1 *et seq*.). With the exception of incorporating a second microphone and specifying that the device is for voice instead of music recording, claim 2 of the '108 patent and claim 1 of the '774 patent are identical, including the same sole memory limitation. Claim 5 of the '108 patent and claim 19 of the

'774 patent differ, in that claim 5 specifies it is for music recording and playback comparable with compact disc quality equipment and explains how this is accomplished by using two microphones and two channels. (*Cf.* Defs' Ex. 3 at 11:37-12:7 (claim 2) & 12:19-55 (claim 5) with Defs' Ex. 1 at 10:54-11:16 (claim 1) & 12:31-61 (claim 19). The differences, however, have no bearing on the sole memory limitation.

e.Digital points to Figures 3 and 4 of the '108 patent which reference SRAM[7] to suggest that the sole memory limitation should be construed differently from the construction rendered in *Pentax*. It also contends that this Court should consider the '108 patent prosecution history in construing the term anew. Notwithstanding the figures and the detailed comparison in the specification between the '774 patent and the '108 patent, the specification, including the discussion of the figures, does not mention SRAM. To the contrary, the discussion of prior art touts the benefits of using flash drive over RAM. (*See, e.g.*, Defs' Ex. 3 at 1:26 -2:41.)

Accordingly, the *Pentax* court's detailed review of prior art and analysis of the specification of the '774 patent, both of which are incorporated in the '108 patent, is equally applicable to the '108 patent. (*See* Defs' Ex. 5 at 9-12.) Although e.Digial suggests the '108 patent prosecution history may contradict the *Pentax* construction of the sole memory limitation, it offers nothing to negate the examiner's observation in the Notice of Allowability that the only apparent improvement offered by the '108 patent over the '774 patent is the addition of noise cancellation to improve sound quality. e.Digital's argument that the claim construction issue decided in *Pentax* is not identical to the issue presented here is therefore rejected.

e.Digital further argues that issue preclusion does not apply because the *Pentax* litigation did not end with a final judgment on the merits. It is undisputed *Pentax* proceeded through claim construction discovery, including expert discovery, claim construction briefing, and a full-day claim construction hearing, including testimony by the lead inventor and expert witnesses, and attorney argument. At the hearing e.Digital argued the sole memory limitation was the "core issue" in the case. (Defs' Ex. 5 at 2-3.) e.Digital also did not object to the defendants' statement that there would be no need to construe the remaining disputed terms, if the sole memory limitation was construed in the defendants' favor. (*Id.*)

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[7] SRAM is an acronym for Static Random Access Memory.

Accordingly, the parties understood the importance of the sole memory limitation and were motivated to litigate it to the fullest. Based on the parties' representations, the court considered the sole memory limitation to be "case dispositive." (*Id*. at 16.) It issued a thoroughly-reasoned 16-page opinion rejecting e.Digital's proposed construction, and ordered the parties to file a joint statement identifying any remaining issues to be decided in the case. (*Id*.) In the joint statement, e.Digital agreed to stipulate to non-infringement as to certain defendants in light of the claim construction, and requested discovery to decide whether to stipulate with the remaining defendants as well. (Defs' Ex. 10.) Subsequently e.Digital settled with each remaining defendant and dismissed the case with prejudice pursuant to joint motions and orders of dismissal. (*See Pentax* docket nos. 399-423.) The claim construction order was not vacated.

Issue preclusion was applied in *Hartley v. Mentor Corp.*, 869 F.2d 1469 (Fed. Cir. 1989), under similar circumstances. There, the court applied Ninth Circuit law and accorded preclusive effect to a summary judgment ruling of patent invalidity where the plaintiff settled after the unfavorable ruling and entered into a stipulated judgment dismissing the action with prejudice. As here, the issue on which preclusion was sought *in Hartley* had been litigated in the prior action, a ruling unfavorable to the plaintiff was issued, and the plaintiff then settled the action and dismissed it with prejudice without vacating the invalidity ruling. Thereafter, issue preclusion was asserted against Hartley in subsequent litigation by a defendant not a party to the prior action. *Id*. at 1471. Where, as here, a stipulated dismissal is consistent with a prior ruling and the ruling is not vacated, the settlement and dismissal do not nullify the issue preclusive effect of the ruling so long as the parties had a full and fair opportunity to litigate the issues resolved therein. *Id*. at 1472-73. Like here, the plaintiff in *Hartley* did not enter into a consent decree, but settled and dismissed the claim with prejudice.[8] *Id*. at 1473. Such dismissal "operates as an adverse adjudication on the merits of a claim." *Id*.; *see also The Rio Grande, El Paso and Santa Fe R.R. Co. v. Dep't. of Energy*, 234 F.3d 1, 7 (Fed. Cir. 2000), citing *Hartley*, 869 F.2d at

[8] When a dismissal is consistent with a fully-litigated ruling, the Court sees no principled difference for purposes of issue preclusion between a stipulated judgment dismissing the action with prejudice and an order dismissing the action with prejudice based on the parties' joint motion after settlement. *See Hallco Mfg. Co., Inc. v. Foster*, 256 F.3d 1290, 1297 (Fed. Cir. 2001) ("there is no legally dispositive difference for claim preclusion purposes between a consent judgment based on a settlement []which ... included a provision dismissing the case,[] and a dismissal with prejudice which is based on a settlement").

1473 (a Rule 41(a) dismissal with prejudice pursuant to a negotiated settlement is an adverse adjudication on the merits). Based on the foregoing, the Court rejects e.Digital's argument that the *Pentax* claim construction order is not sufficiently final.

Next, e.Digital argues that a claim construction ruling made by a district court in another Circuit is not binding on courts in the Ninth Circuit. The only appellate authority cited in support of this proposition is *IGT v. Bally Gaming Intern., Inc.*, 659 F.3d 1109, 1117 n.1 (Fed. Cir. 2011). *Bally Gaming*, however, did not address this issue, but simply noted that another district court's construction of the same word in an unrelated patent was only persuasive authority for purposes of claim construction. Issue preclusion was not raised in *Bally Gaming*. Accordingly, *Bally Gaming* is factually and legally distinguishable. Moreover, e.Digital's argument is contradicted by other authority. *See, e.g., Dana III v. E.S. Originals, Inc.*, 342 F.3d 1320 (Fed. Cir. 2003) (a partial summary judgment order of infringement entered in the Central District of California was given preclusive effect in the infringement action filed in the Southern District of Florida).

Finally, e.Digital contends issue preclusion should not apply in this case for reasons of policy and fairness. "The doctrine of issue preclusion is premised on principles of fairness." *Freeman*, 30 F.3d at 1467, citing *Blonder-Tongue Lab., Inc. v. Univ. of Ill. Found.*, 402 U.S. 313, 349 (1971). "Thus, a court is not without some discretion to decide whether a particular case is appropriate for application of the doctrine." *Freeman*, 30 F.3d at 1467. e.Digital contends that the Court should postpone ruling on this motion until after the parties have had an opportunity to conduct claim construction discovery and present expert testimony regarding the effect of reexamination on the '774 patent. The Court declines to do so.

The policies underlying issue preclusion favor granting defendants' motion before significant resources are expended addressing previously litigated issues. The Court is mindful that it must ensure that application of issue preclusion will not deprive a party of its "day in court," *see Taylor*, 553 U.S. at 893, and that the party against whom issue preclusion is asserted has had a full and fair opportunity to litigate the issue in the prior action. *Blonder-Tongue*, 402 U.S. at 329. e.Digital has had a full and fair opportunity to litigate the sole memory limitation in *Pentax*. The litigation included discovery, briefing, and a full-blown hearing with witness testimony and attorney argument, followed by a well-

reasoned written decision from the court. e.Digital had every reason to (and did) present its best case, as both parties understood the case-dispositive nature of the claim construction at issue.

"By precluding parties from contesting matters that they have had a full and fair opportunity to litigate, [issue preclusion] protect[s] against the expense and vexation attending multiple lawsuits, conserve[s] judicial resources, and foster[s] reliance on judicial action by minimizing the possibility of inconsistent decisions." *Taylor*, 553 U.S. at 892 (internal quotation marks and citations omitted, bracketed language added). The expense and vexation attendant to multiple lawsuits are exacerbated in patent litigation, which exacts a higher price on the parties than other types of litigation. *See Blonder-Tongue*, 402 U.S. at 334, 338-43. "In each successive suit the patentee enjoys the statutory presumption of validity, and so [may] easily put the alleged infringer to his expensive proof." *Id.* at 338. It is well known that patent litigation consumes disproportionately greater judicial resources than other types of litigation. *Id.* at 336-37; *see also* Fed. Jud. Ctr., Patent Case Management Judicial Guide, Appx. 2.2 (2009). Furthermore, "[p]ermitting repeated litigation of the same issue as long as the supply of unrelated defendants holds out reflects [an] aura of the gaming table," *Blonder-Tongue*, 402 U.S. at 329, and erodes reliance on judicial action. "Judicial precedents are presumptively correct and valuable to the legal community as a whole. They are not merely the property of private litigants ... ." *U.S. Bancorp Mtg. Co. v. Bonner Mall P'tnship*, 513 U.S. 18, 26 (1994). Thus, such precedents should not be undermined by settlement and voluntary dismissal after an unfavorable ruling only to try again later against a different defendant. *See id.* at 26-27. Minimizing the possibility of inconsistent decisions is particularly important in patent cases. That claim construction is deemed to be an issue of law for the court stems from the desire to decrease uncertainty and increase "uniformity in the treatment of a given patent." *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390 (1996). Such uniformity is fostered by application of issue preclusion in the area of claim construction. *See id.* at 391.

For these reasons, the Court finds the elements of issue preclusion are met and preclude e.Digital from relitigating construction of the sole memory limitation in claims 33 and 34 of the '774 patent and

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claims 2 and 5 of the ‘108 patent. Fairness and public policy favor application of issue preclusion here. Accordingly, defendants’ motion is granted.

IT IS SO ORDERED.

DATED: August 21, 2013

HON. DANA M. SABRAW
United States District Judge

US005839108A

United States Patent [19]

Daberko et al.

[11] Patent Number: 5,839,108

[45] Date of Patent: Nov. 17, 1998

[54] **FLASH MEMORY FILE SYSTEM IN A HANDHELD RECORD AND PLAYBACK DEVICE**

[75] Inventors: **Norbert P. Daberko**, Oceanside; **Richard K. Davis**, San Diego, both of Calif.

[73] Assignee: **Norris Communications, Inc.**, San Diego, Calif.

[21] Appl. No.: **884,245**

[22] Filed: **Jun. 30, 1997**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 612,772, Mar. 7, 1996.

[51] **Int. Cl.**[6] **G11B 9/00**

[52] **U.S. Cl.** **704/270**; 711/103; 711/118; 711/115; 711/202; 711/206; 707/205

[58] **Field of Search** 704/270; 707/205; 711/113, 115, 118, 103, 202, 206

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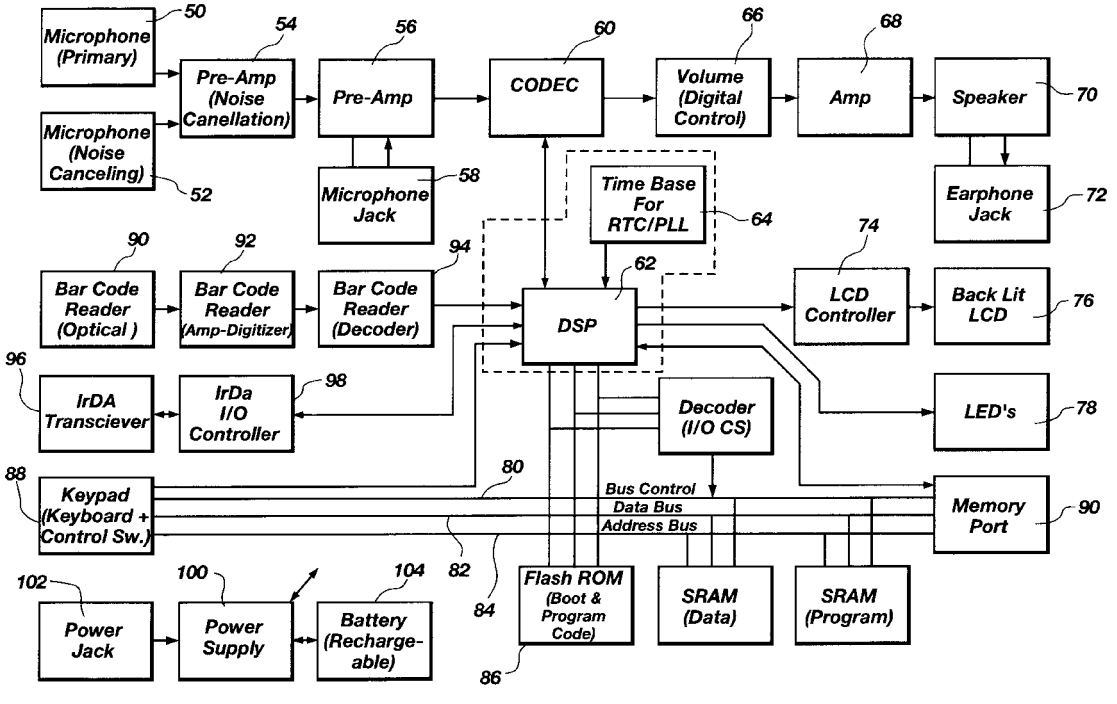
Assistant Examiner—J. Peikari
Attorney, Agent, or Firm—Thorpe, North & Western, L.L.P.

[57] **ABSTRACT**

A record/playback device for use with a removable, interchangeable, flash memory recording medium which enables noise dampened recording of voice data and CD quality stereo recording of music data. The device includes a port for receiving a flash memory module which can record data according to industry standard formats to enable the transfer of data to and from personal computers through swapping of flash memory media. Alternative forms of data input and output also include implementation of a barcode reader and an infra-red transceiver for the transfer of data to and from the device.

6 Claims, 4 Drawing Sheets



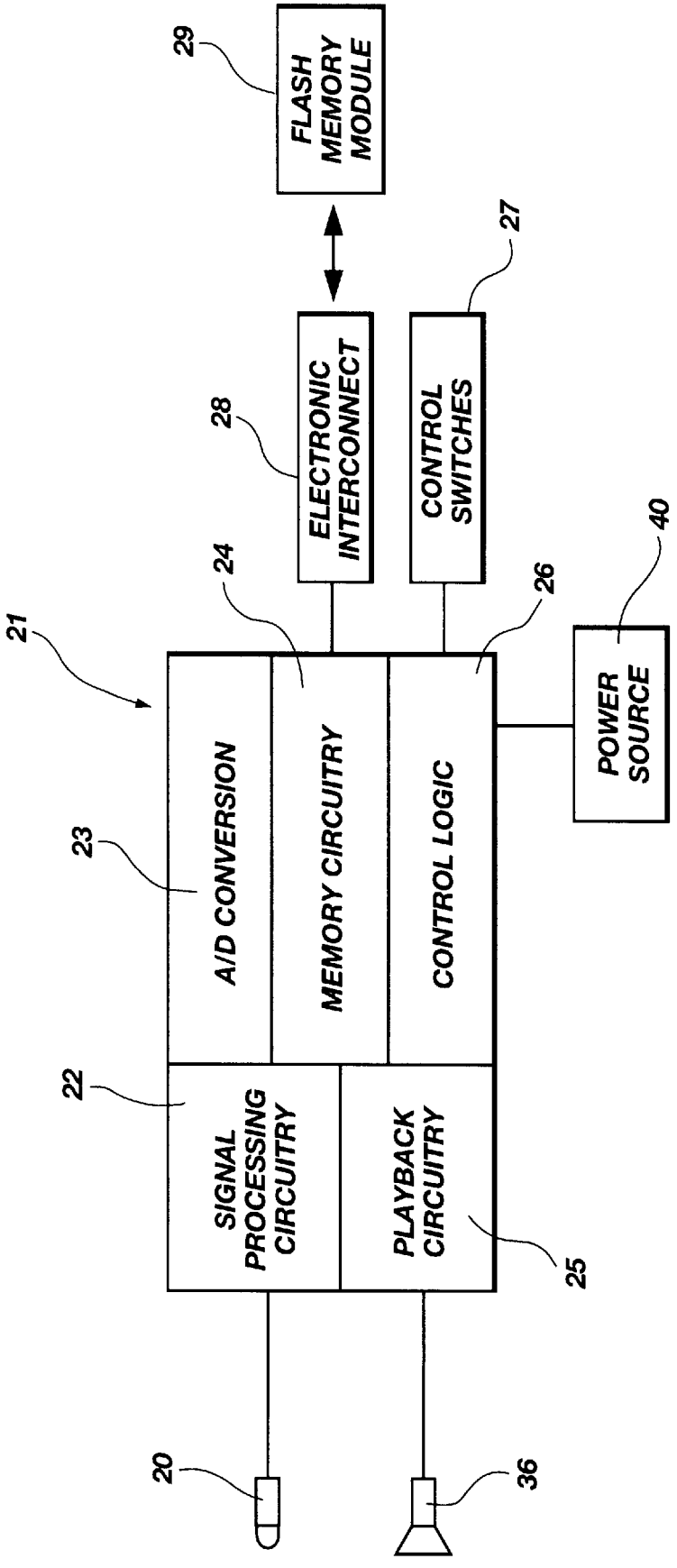


Fig. 1
(PRIOR ART)

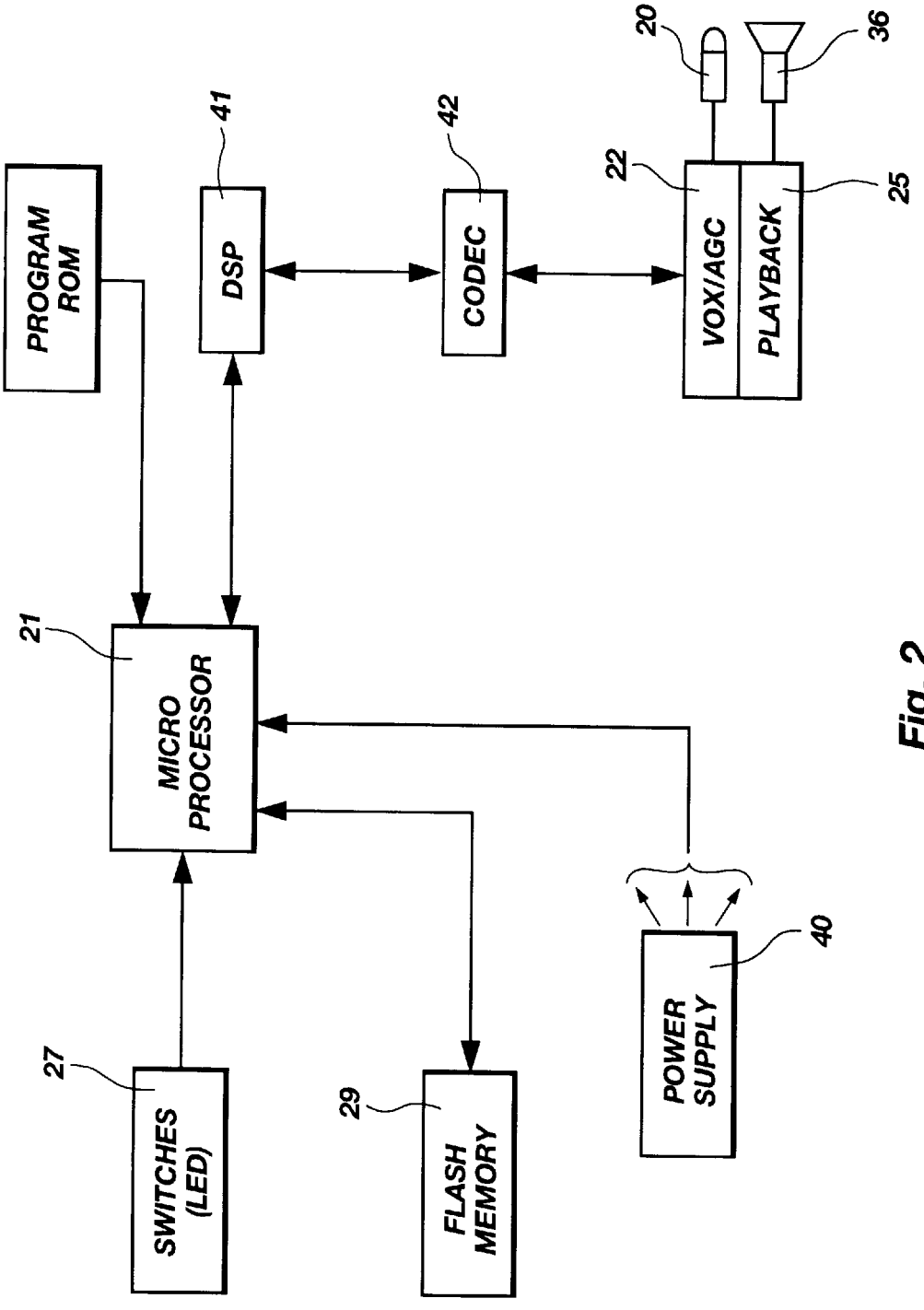
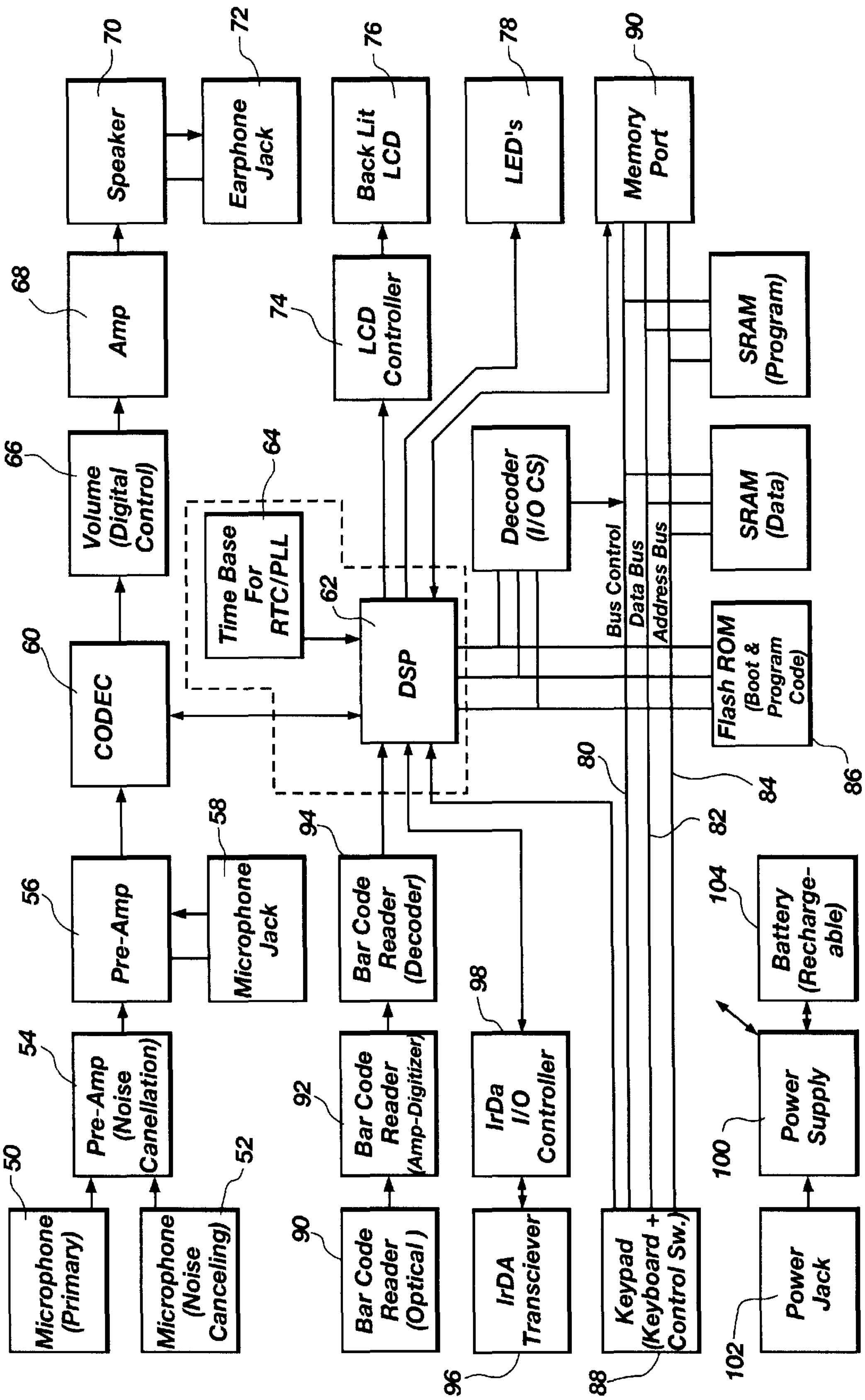


Fig. 2
(PRIOR ART)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Microphone (Noise Canceling)
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Pre-Amp (Noise Canellation)
54
Pre-Amp
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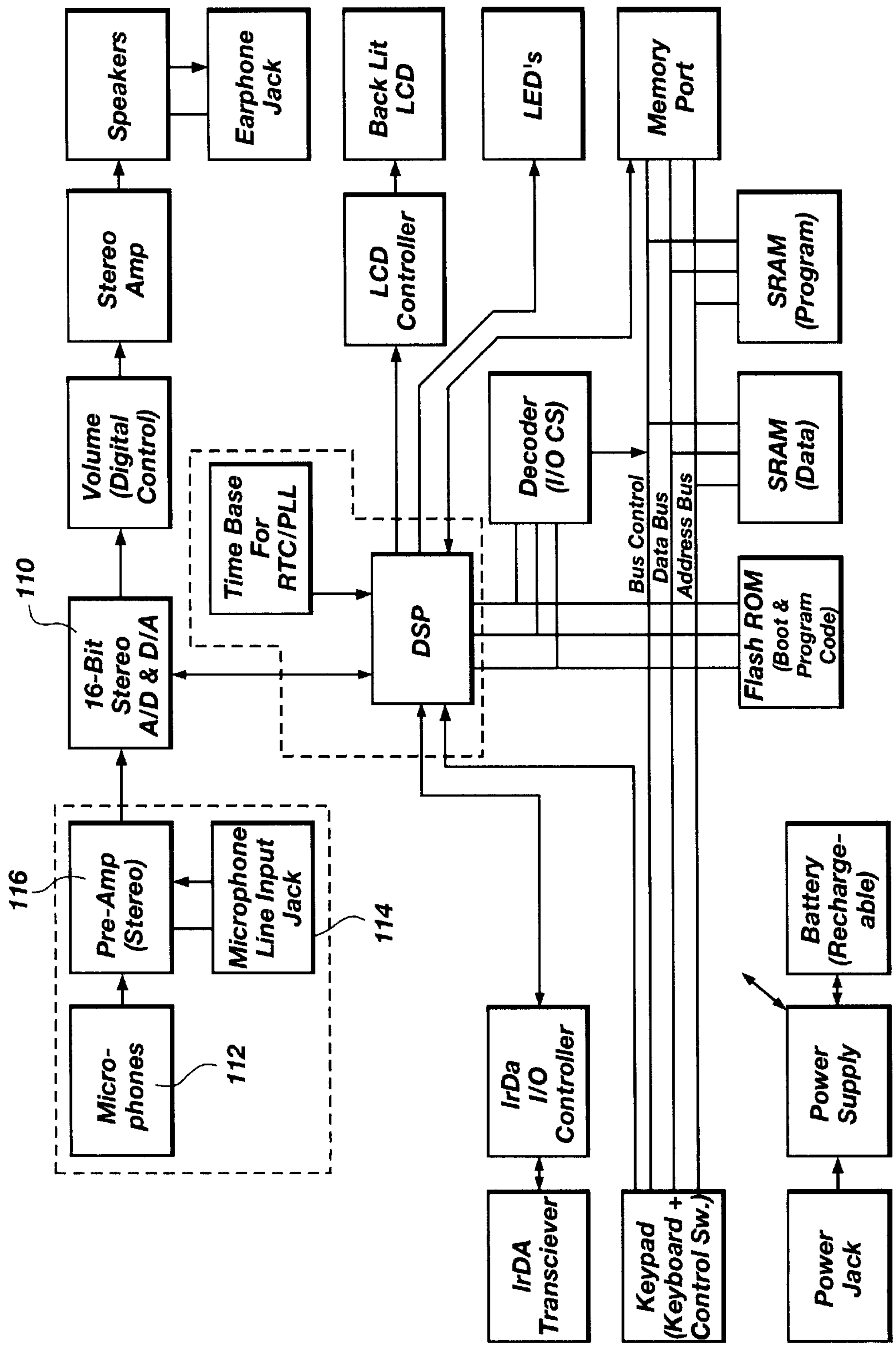
DSP
62
Time Base For RTC/PLL
64
Volume (Digital Control)
66
Amp
68
Speaker
70
Earphone Jack
72
LCD Controller
74
Back Lit LCD
76
LED's
78
Memory Port
90
Decoder (I/O CS)
SRAM (Program)
SRAM (Data)
Flash ROM (Boot & Program Code)
86
Bus Control
Data Bus
Address Bus
80
82
84
Bar Code Reader (Optical)
90
Bar Code Reader (Amp-Digitizer)
92
Bar Code Reader (Decoder)
94
IrDA Transciever
96
IrDa I/O Controller
98
Keypad (Keyboard + Control Sw.)
88
Power Jack
102
Power Supply
100
Battery (Recharge-able)
104

Fig. 3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Earphone Jack
Back Lit LCD
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Stereo Amp
LCD Controller
SRAM (Program)
Volume (Digital Control)
Time Base For RTC/PLL
Decoder (I/O CS)
SRAM (Data)
110
16-Bit Stereo A/D & D/A
DSP
Bus Control
Data Bus
Address Bus
Flash ROM (Boot & Program Code)
116
Pre-Amp (Stereo)
Microphone Line Input Jack
114
Battery (Recharge-able)
Micro-phones
112
IrDa I/O Controller
Power Supply
IrDA Transciever
Keypad (Keyboard + Control Sw.)
Power Jack

Fig. 4

FLASH MEMORY FILE SYSTEM IN A HANDHELD RECORD AND PLAYBACK DEVICE

This patent application is a continuation-in-part of U.S. patent application Ser. No. 08/612,772, filed Mar. 7, 1996, for an operating system including improved file management for use in devices utilizing flash memory as main memory.

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention pertains to a system for memory management in a non-volatile, long-term storage medium utilized in audio recording and playback devices. More particularly, this system organizes flash memory such that data storage and retrieval is optimized so as to decrease system overhead and thereby increase data throughput, system stability and fault tolerance, while improving noise reduction, improving the quality of audio data recording and playback, and increasing versatility of data input and output methods.

2. Prior Art

The present invention hereinafter incorporates by reference the materials disclosed in U.S. Pat. No. 5,491,774 for a HANDHELD RECORD AND PLAYBACK DEVICE WITH FLASH MEMORY by Norris et al. This patent provides a detailed example of the benefits of flash memory in a portable recorder. Most importantly, the parent application provides an operating system which is optimized for use in the handheld record and playback device mentioned above.

The motivation for the improvements in the hardware and the software elements of the present invention originated in a desire of the inventors to substantially improve the quality of audio recording and playback in handheld record and playback devices. It is unprecedented to expect high quality recording and playback capabilities on such a reduced scale. Therefore, while the benefits of efficient organization of data stored in long-term storage media is becoming realized, there remain substantial drawbacks in audio quality. For example, implementation of a system which can provide reliable data (sound file) recording and retrieval typically comes at the price of reduced audio performance, and convenience to the user.

The parent application of the present invention was in part devoted to the practical implementation of replacing typical long-term storage media with a non-volatile counterpart, flash memory. The application included overcoming the inherent practical limitations of using flash memory by developing a sophisticated operating system to efficiently manage data stored and retrieved therefrom. Accordingly, the benefits of efficient data storage in flash memory became realized in a handheld recorder which is suitable for voice recording and playback.

The parent application also addressed the drawbacks of other prior art methods of file management designed specifically for use with flash memory such as the system taught in U.S. Pat. No. 5,404,485 issued to Ban. Ban, however, still takes a more conventional and disadvantageous approach of manipulating data stored in flash memory by first reading the data out to a large random access memory (RAM), manipulating the data in RAM, erasing the flash memory where the data was originally stored, and then writing the data from RAM back to a contiguous block of flash memory. Ban also disadvantageously creates a file structure similar to personal computer based DOS (disk operating system) which maps the location of stored data.

The method of Ban creates several severe overhead burdens on the system which substantially hurt system performance. More specifically, Ban uses a virtual memory mapping system similar to the DOS file allocation table (FAT), the virtual memory map converting virtual addresses to physical addresses. Using this method of indirection, Ban attempts to facilitate use of flash memory as RAM. The problem with this approach is that Ban creates the need for this indirection because data manipulation takes place outside of flash memory. Ban mistakenly teaches that the time wasted copying blocks of data from flash memory to RAM for manipulation then back into flash memory is unavoidable.

A further significant drawback to Ban is the lack of fault tolerance in a system that utilizes a virtual map stored partially in RAM. The system is inherently unstable because any loss of power to RAM destroys the map which must then be reconstructed before the system can read or write data to flash memory.

Another drawback of Ban is that the RAM requirement grows as flash memory grows. This is the consequence of using a virtual map whose size is dependent upon the total amount of RAM available, and is thus a ratio of the larger flash memory media in order to reflect a scaled version of what is stored in physical addresses.

Ban essentially teaches that it is necessary to follow the method already used in the conventional DOS operating system which also relies on long-term storage in conjunction with significant RAM resources. That is to say, the access to and structure of storage media is changed as little as possible so that the operating system does not have to be significantly altered to utilize flash memory.

While the objective of making a system see flash memory as RAM with its accompanying benefits of non-volatility is desirable, the approach taken by Ban fails to take full advantage of flash memory by continuing to rely heavily on RAM resources. This system then suffers from lack of fault tolerance which not only jeopardizes reliability, but slows down the entire system by requiring large data transfers between RAM and flash memory.

The drawbacks of Ban are accentuated when what is desired is to improve even further on the inventive hardware and software of the parent application and that disclosed in U.S. Pat. No. 5,491,774.

Accordingly, the challenge is to use an advanced operating system to control a non-volatile, long-term storage medium such as flash memory in an improved handheld audio recording and playback device capable of providing CD quality sound capabilities. It would be a further advantage to simplify the processing of audio data by directly controlling a sound processor. It would be yet another advantage to provide more versatile data input and output methods to simplify use of CD-quality audio data.

OBJECTS AND SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide a CD quality record/playback device utilizing a computer chip memory which offers long play operation similar to standard cassette tapes or compact disks.

It is a further object of this invention to provide such a device which has no moving parts, and in particular, no drive mechanism or means for moving a recording medium.

Another object of this invention is a record/playback device which utilizes nonvolatile memory stored in an integrated chip of compact size.

Another object of the invention is to provide a handheld recorder which provides noise reduction for voice recording, and stereo recording of CD quality for music recording.

Another object is to provide additional methods for data input and output which are not found in handheld record and playback devices.

Another object is to provide a bar code reader as a method for data input to the handheld record and playback device to enable scanning of bar code data which can also be associated with other data such as verbal commentary.

Another object is to provide an infra-red input and output transceiver for the handheld record and playback device, to enable receiving and sending of data via an infra-red communication port.

Another object is to provide program updates to the operating system of the handheld record and playback device.

Another object is to enable the flash memory to store data so as to appear readable to industry standard information storage and retrieval operating interfaces and operating systems.

Another object is to simplify circuitry of the handheld record and playback device.

Another object is to increase the audio resolution of the handheld record and playback device to enable CD quality input and output.

Another object is to enable a plurality of different flash memory storage devices utilizing different technologies to be used with a same handheld record and playback device.

Another object is to increase a sampling rate of data and provide improved compression algorithms to support CD quality audio capabilities.

Another object of the present invention to provide a file system for non-volatile, long-term storage media which has a low processing overhead requirement, thus increasing data throughput.

Another object of this invention to provide a file system which has particular application to the storage medium of flash memory.

Another object of the present invention to provide a file system which is significantly fault tolerant.

These and other objects are realized in a CD quality record/playback device for use with a removable, interchangeable, flash memory recording medium which enables extended recording of 30 minutes or more. The device includes at least one microphone element configured to receive and process sound into electrical signals and control circuitry coupled to the microphone element and including signal input circuitry, amplification circuitry, analog-to-digital conversion circuitry, memory circuitry, signal output circuitry and control logic circuitry for performing CD quality record and playback functional operations with respect to the electrical signals and other regulated components of the record/playback device. A receiving socket is electrically coupled to the memory circuitry and configured for electrical coupling with a flash memory module which is capable of retaining recorded digital information for storage in nonvolatile form. A speaker is coupled to the control circuitry for playback of recorded digital information and a power source is coupled to the control circuitry for supplying electrical power to the device.

In another aspect of the invention, noise reduction is advantageously provided when recording voice data. Through companding of the voice signal data, non-linear signal conditioning provides better sound resolution than is

otherwise possible with a standard A/D conversion techniques. The noise cancellation is eliminated when recording music which would otherwise compromise true sound recording and playback.

The present invention also includes a method of memory management for a primary memory created from non-volatile, long-term storage media, in particular flash memory, which enables direct manipulation of data segments stored therein.

These and other objects, features, advantages and alternative aspects of the present invention will become apparent to those skilled in the art from a consideration of the following detailed description taken in combination with the accompanying drawings.

DESCRIPTION OF THE DRAWINGS

FIG. **1** is a block diagram providing a preferred functional layout for the prior art handheld record and playback device disclosed in U.S. Pat. No. 5,491,774.

FIG. **2** is an alternate block diagram providing additional detail on the functional operations of the device taught in FIG. **1**.

FIG. **3** is a block diagram of the components in a presently preferred embodiment of the present invention which enables a handheld record and playback device to record and playback voice data using noise cancellation in accordance with the teachings of the present invention.

FIG. **4** is a block diagram of the components in a presently preferred embodiment of the present invention which enables a handheld record and playback device to record and playback music data at CD quality levels in accordance with the teachings of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Reference will now be made to the drawings in which the various elements of the present invention will be given numerical designations and in which the invention will be discussed so as to enable one skilled in the art to make and use the invention. It is to be understood that the following description is only exemplary of the principles of the present invention, and should not be viewed as narrowing the claims which follow.

FIGS. **1** and **2** are block diagrams of the prior art described in U.S. Pat. No. 5,491,774, and previously incorporated by reference. It is useful to include a portion of the description so that the differences between the presently preferred embodiments and the prior art are more evident when examining FIGS. **3** and **4** of the present invention.

The invention disclosed in U.S. Pat. No. 5,491,774 offers the advantages of a removable element smaller in size than a cassette tape, but which has no moving parts. This removable component comprises a flash memory chip or module which has the capacity to store digital information without need for ongoing power support. The stored information is substantially permanent and is not susceptible to magnetic erasure or modification. This information can be immediately recovered by inserting the module into any compatible recorder for immediate playback. It therefore functions in a manner comparable to a conventional handheld recorder, but without the deficiencies noted above for mechanical drive systems.

The record/playback device comprises a microphone element **20** which is coupled to control circuitry **21** which processes the audio signal. Any microphone element may be

used. The illustrated microphone is an electret element which is commonly used in handheld dictaphone equipment.

The control circuitry **21** includes signal input and amplification circuitry **22**, analog-to-digital conversion circuitry **23**, memory circuitry **24**, signal output circuitry **25** and control logic circuitry **26** for performing record and playback functional operations with respect to the electrical signals and other regulated components of the record/playback device. Some of these functions are manually controlled by the operator with switches **27**, as well as automatic operations controlled by software and firmware elements of the device. These components are discussed in greater detail hereafter.

An electronic interconnect means **28** is electrically coupled to the memory circuitry **24** and is configured for removable, electrical coupling with a flash memory module **29** capable of retaining recorded digital information for storage in nonvolatile form. The flash memory module is a digital memory storage device manufactured by Intel Corporation of Santa Clara, Calif. (see U.S. Pat. No. 5,267,218). This module **29** includes a plurality of memories arranged in an array, which can be electrically programmable or erasable.

A speaker **36** is coupled to the control circuitry **21**, and specifically to the record playback circuitry **25**, for playback of recorded digital information. Here again, the speaker device and attachment techniques are conventional parts of a recorder device. Selection of a specific speaker will depend on the desired quality of reproduction, as well as size limitation. For example, the speaker may consist of an ear plug jack and removable ear plug. Where the device is used for playback of music, a high fidelity speaker may be desired.

The control circuitry **21** and associated functional components are powered by a battery source **40**, which is described in greater detail hereafter. Control circuitry is provided to enhance power conservation and to more effectively control allocation of voltage levels to circuitry components in accordance with specific power needs. The control circuitry includes embedded software commands for disabling certain circuitry components when not needed, as well as trigger commands to restore power for rapid response of disabled circuits. An alternate AC/DC input port is also provided.

An additional significant feature of the device comprises compression circuitry **41** and **42** coupled to the memory circuitry **24** (generally forming part of the control circuitry generally identified as **21**) for compressing digital signal for storage in the flash memory module. This circuitry includes a DSP **41** and CODEC **42** which cooperate to compress data at a ratio of 16:1 for storage. Applying such data compression provides record times of 60 minutes or more, corresponding to traditional cassette tape recording times. These same components **41** and **42** cooperate as data retrieval circuitry for expanding compressed signal to a useful output signal to be sent to the speaker **36**.

Overall system design is based on the use of a microprocessor which can drive all system components. This eliminates the need for use of multiple interface logic that demands a lot of board space within the circuitry. The DSP or digital support processor is coupled to the microprocessor and to a CODEC for coding and decoding the analog signal received from the microphone or transmitted to the speaker. Codec also performs the analog to digital conversion. It functions to receive the analog signal input and convert it to PCM or pulse code modulation and then feed this signal to the DSP. Conversely, when operating in play back mode, the DSP will feed pulse code modulation digital signal to the codec and the codec converts it to an analog signal that can be fed through an amplifier to a speaker.

Once the DSP compresses that data through customary hardware handshaking techniques, it feeds the data back to the microprocessor through a host bus. The basic functionality is as follows. If in a recording mode, the microprocessor sends commands to the DSP placing it into a record mode. The microprocessor places the DSP in a record mode where it retrieves data from the codec, compresses it and returns it to the microprocessor in the form of status words. The micro-controller then takes that data and sends it out to the PCMCIA connector or through the PCMCIA connector to the flash memory module.

To get the data back, the status request command is sent by the microprocessor and data is returned in compressed form. The compressed data is retrieved in 16 bit format. The specific addresses are written in the microprocessor for maintaining data location. The process involves sequential addressing through flash memory. The microprocessor's responsibility is to separate different messages and to be able to index the different messages and the different offsets within those messages. It maintains an address pointer and sequentially takes byte information from the DSP and writes it to memory in the form of a file. Conversely, the microprocessor in the play scenario places the DSP in a play mode and the DSP expects to be fed compressed data information at a specific rate. That rate is governed by hardware handshaking signals between the DSP and the microprocessor.

The microprocessor monitors data transfer status and every time the DSP is ready for another byte of information, it goes to flash, reads that byte of information from a location for spotting to a certain offset inside of a message, reads it back into the microprocessor and then writes it out to the DSP. The DSP takes blocks of 28 bytes and expands them and decompresses them into pulse code modulation. Each of those 28 bytes corresponds to 33 milliseconds of recorded analog signal.

The audio processing circuitry **22** and **25** includes circuitry that conditions the analog signal for both recording and playback. It feeds the signal through a differential amplifier. This boosts the signal and also removes common mode noise to produce a quieter signal.

Following this conditioning, the signal is processed through an automatic gain control circuit (AGC) where the recording level is automatically adjusted to a favorable level.

Also attached to the recording circuit is a VOX circuit for implementing voice operated recording. This circuit determines the threshold for automatically activating the recording mechanism. This feature is typically available on dictating equipment for facilitating hands-free use.

Having described some specific aspects of some block diagrams of the prior art, it is now meaningful to examine the improvements provided by the present invention. When looking at FIGS. **3** and **4**, one of the most important modifications is the inclusion of a specific voice recording and playback embodiment which is distinct and separate from a music recording and playback embodiment. The purpose for this distinction is evident from a closer examination of the presently preferred voice and music embodiments.

FIG. **3** illustrates in a block diagram the components of a system which enables a handheld record and playback device typically smaller than a dictaphone to record and playback voice data using noise cancellation in accordance with the teachings of the present invention.

A first area of improvement is in the microphone input. Specifically, there are now provided a primary microphone **50** and a noise canceling microphone **52**. In other words, the noise canceling microphone **52** is able to provide a signal which is useful in canceling noise received by the primary microphone **50**, using techniques which are well known to those skilled in the art. It is important to realize that this function is desirable when recording a voice as opposed to the situation when music is being recorded. Accuracy in recording music is a very distinct process from accurately recording a voice. For example, it is not as important that a voice being played back sound as close as possible to the actual voice which was recorded. What is important is that the voice be distinct and distinguishable from distracting or interfering noise in the background. Consequently, accuracy in reproducing the recorded voice is advantageously sacrificed for clarity.

The function of noise cancellation is accomplished utilizing a first pre-amplifier **54**, also by utilizing methods well known to those skilled in the art. A second pre-amplifier **56** is then utilized for the purposes of automatic gain control and voice activated recording, as is explained in the previously issued U.S. Pat. No. 5,491,774. Accordingly, an external microphone jack **58** is provided to assist in these functions. Therefore, despite the small size of the present invention, it accomplished acoustical noise reduction at the microphone input.

Before examining other methods of data input, the other elements of the embodiment of FIG. **3** include a CODEC **60**. As explained in the prior art, the CODEC **60** is utilized for coding and decoding the analog signal received from the microphone or transmitted to the speaker. The CODEC **60** also performs the analog to digital conversion. It functions to receive the analog signal input and convert it to pulse code modulation (PCM) and then feed this signal to a digital signal processor (DSP) **62**. Conversely, when operating in play back mode, the DSP **62** will feed pulse code modulation digital signals to the CODEC **60** and the CODEC **60** converts it to an analog signal that can be fed through an amplifier to a speaker.

An important distinction between the voice and the music embodiments also takes place here. The voice embodiment utilizes companding to increase the sound resolution. Utilizing non-linear signal conditioning enables an 8 bit input signal to have the response of a 13 bit resolution voice signal. This higher resolution is obtained without having to provide the hardware for the higher resolution.

The introduction of the DSP **62** raises another important difference between the prior art and the present invention. Among reasons such as yo decrease cost of the system and increase system throughput, the micro-controller is eliminated. Modern DSPs can include within their structure an imbedded micro-controller. Accordingly, program instructions which were previously executed by a separate micro-controller are now accomplished within the DSP **62** itself. It should be realized that elimination of the micro-controller also reduces the total size of a circuit board, as well as reduce the system power requirements.

Functioning with the DSP **62** is a time base **64** which provides a real time clock (RTC), as well as a phase-locked loop (PLL). This time base **64** enables the DSP to control timing functions which are necessary for voice data segments to be stored and recalled in proper sequence.

The present invention also includes a digital volume controller **66**, an amplifier **68**, an external loudspeaker **70**, and an earphone jack **72** for private listening.

Associated with the DSP **62** is a liquid crystal display (LCD) controller **74**, and a backlit LCD **76**. Along with this display which enables the display of words are LEDs **78** which enable non-alphanumeric display of information.

The DSP **62** is coupled by a bus control bus **80**, a data bus **82** and an address bus **84** to other system components. For example, the executable program instructions are stored in a presently preferred embodiment in a flash ROM **86**. These program instructions include a boot-up program for system initialization, as well as program instructions for controlling the various functions of the handheld record and playback device.

A particularly advantageous feature of the present invention includes the aspect of upgrading the flash ROM **86** which is coupled to the three buses **80**, **82** and **84**. As various functions are enabled on the handheld record and playback device, for example, through the addition of various hardware attachments or upgrades, it is possible to enable the device to accomplish more than is presently programmed at any given time. Accordingly, the ability to change and update a presently existing program stored in flash ROM **86** is an ability which enables the present invention to take advantage of functions either not contemplated or not implemented.

Another component which may be coupled to the three buses is an input device which is new to the present invention. Specifically, a keyboard **88** is a feature which can be implemented in various ways. For example, the keyboard **88** could be a very small input device which is not intended for use by fingers. Instead, a stylus or other small punch device (not shown) could be used to press keys. It should be apparent that single and multi-function control switches can also be coupled to the three buses.

Also coupled to the three buses is a memory cartridge port **90**. At this interface **90**, the main system memory is coupled to the device. Of course, flash memory in all of its different implementations can be used as explained previously. However, the present invention includes at this port **90** the ability to provide signals which are compatible with various data exchange formats. For example, in the presently preferred embodiment, the port **90** is able to provide signals which are compliant with an industry standard IDE hard drive memory card interface.

It is another advantage of the present invention to be able to provide industry compliant signals which are compatible with long-term storage media. In this way, a flash memory coupled to the port **90** could be removed from the handheld record and playback device and coupled to a port on a personal computer which is also compliant with the IDE hard drive memory card interface in order to exchange data therebetween.

Although the present invention is able to store data in a format which is readable by the IDE hard drive memory card interface, the underlying data is advantageously stored in accordance with the NORRIS FLASH FILE SYSTEM as disclosed in the parent application. Alternatively, the present invention makes possible a hybrid combination of the NORRIS FLASH FILE SYSTEM and the IDE hard drive memory card interface which follows more closely the conventional memory scheme of the IDE hard drive memory card interface. Nevertheless, the advantages of the present invention are better realized by manipulating data and executing voice message creation, insertion, deletion and other record and playback functions in accordance with the NORRIS FLASH FILE SYSTEM.

The presently preferred embodiment of the present invention also includes the use of two advantageous methods of

input, and one new advantageous method of output. One of the new methods of input is comprised of a barcode reader **90**. A barcode reader **90** is an optical sensor which is typically implemented as some type of laser emitting device and a laser sensor. Barcode readers are often utilized in grocery stores to read prices from UPC labels. However, the uses of barcodes go beyond commercial retail. For example, when a doctor makes rounds, it is often necessary to dictate information to be included in a medical file. The notes are often made while the doctor has the file. The dictation notes can be correlated to a particular file by including barcode labels on the files. A transcriptionist is then easily able to determine to which file the transcribed notes pertain by accessing the associated barcode label which the doctor scanned with the barcode reader **90** when making the notes. The example above only illustrates one possible use for a barcode reader implemented in the handheld record and playback device.

Additional circuitry required by the barcode reader **90** is a signal amplifier and digitizer **92**, and a decoder **94** which interprets the digitized barcode signal. The decoded signal is transferred to the DSP **62** for utilization as required.

The remaining newly implemented methods of input and output in the present invention are related technology. Specifically, an infra-red transceiver **96** is provided with an associated infra-red input/output controller **98**. The infra-red I/O controller is in turn coupled to the DSP **62** which transmits signals to and receives signals from the infra-red transceiver **96**. It is believed that the present invention is the first implementation of an infra-red transceiver in a handheld record and playback device which is advantageously capable of transmitting and receiving voice data.

The infra-red transceiver **96** capabilities are provided for various reasons. For example, it can be used for data collection. It should also be realized that the data can be comprised of voice, demographic, configuration and program data. The infra-red transceiver **96** also makes possible the rapid exchange of data between handheld record and playback devices without having to exchange data recording media. The data can also be transferred between a handheld record and playback device and a personal computer.

A final system of the handheld record and playback device to be improved is the power supply **100**. The system can include a battery **104**, as well as a battery charger **100**. Alternatively, power can be supplied through a power jack **102**.

The differences between the presently preferred voice record and playback embodiment of FIG. **3** and the presently preferred music record and playback embodiment of FIG. **4** are mainly limited to a modification of the music input system, and elimination of the barcode reader system **90**, **92** and **94**.

Specifically, the music input system must provide better sound resolution than the voice embodiment. This is implemented in order to provide for CD quality sound recording and playback. Typically, CD quality sound capabilities are not expected from a device which does not provide the ability to play a CD. However, flash memory which is typically utilized as the storage medium for the present invention is capable of storing the large amount of audio data which is typically stored on a CD. CDs hold a large amount of data in order to provide the significantly higher sound resolution of music as compared to voice data. For example, the presently preferred embodiment of the voice system samples data at a rate of 8 KHz. However, CD quality sound reproduction requires sampling data at a rate of 44.1 KHz. Accordingly, the CODEC **60** of FIG. **3** is replaced with a 2 channel 16 bit stereo sound A/D and D/A circuit **110**. The 13 bit effective rate of the voice system of figure is improved to the 16 bit system required for CD quality sound recording and playback. It should be noted that the music embodiment of FIG. **4** results in an uncompressed data rate of 176,000 bytes/second as compared to 8,000 bytes/second for the voice embodiment.

CD quality recording and playback is heretofore unprecedented in a handheld record and playback device such as the present invention. However, by transferring CD music files to a flash memory unit, the flash memory can be coupled to the present invention, effectively resulting in a CD player without moving parts or the CD.

The music embodiment of FIG. **4** is also different in the microphone input. Whereas the voice embodiment only required monaural capabilities, recording requires use of a true stereo microphone **112** to record two channels of sound. Likewise, a microphone or line input jack **114** can be provided for direct electrical coupling of a signal to the handheld record and playback device. Both the jack **114** and stereo microphone **112** inputs feed to a stereo signal preamplifier **116**. The pre-amplifier **116** sends its signals to the 16 bit stereo A/D and D/A 2 channel converter **110**.

What may not be realized is that the present invention is capable of recording to and receiving data from all existing implementations of flash memory, including NOR, captive NAND and CompatchFlash memory modules operating in IDE mode. Only minor modifications are required in the NORRIS FLASH FILE SYSTEM in order to implement the different types of flash memory. Yet this capability enables the present invention to utilize the most inexpensive or best flash memory available. The operating system changes are focused, for example, about the varying methods of addressing the flash memory, and changes in "sector" and "block" sizes.

The CompactFlash memory module is also capable of going directly from the memory port **90** of the present invention directly to a port on a laptop of desktop personal computers with an PCMCIA interface. In this example, playing a CD on the present invention would then involve copying data from the CD in a laptop or desktop computer to the CompactFlash memory module. The CompactFlash memory module would then be inserted into the memory port **90** of the present invention. However, as a practical matter and in order to reduce memory costs, the data will typically be compressed on the laptop or desktop computer before copying it to the CompactFlash or other flash memory module. The presently preferred embodiment then provides for decompressing the data real-time during playback.

The compression algorithm implemented in the present invention can vary as necessary and as technology changes. However, industry standards such as MPEG-2 can presently be utilized.

It is to be understood that the above-described arrangements are only illustrative of the application of the principles of the present invention. Numerous modifications and alternative arrangements may be devised by those skilled in the art without departing from the spirit and scope of the present invention. The appended claims are intended to cover such modifications and arrangements.

What is claimed is:

1. A method of memory management for a primary memory created from a non-volatile, long-term storage medium, said method enabling direct manipulation of con-

tiguous and non-contiguous discrete data segments stored therein by a file system, and comprising the steps of:

(a) creating the primary memory from a non-volatile, long-term storage medium, wherein the primary memory comprises a plurality of blocks in which the data segments are to be stored;

(b) coupling a cache memory to the primary memory, said cache memory providing temporary and volatile storage for at least one of the data segments;

(c) writing a new data segment from the cache memory to the primary memory by linking said new data segment to a sequentially previous logical data segment by the following steps:

(1) receiving the new data segment in the cache memory;

(2) moving the new data segment from the cache memory to a next available space within primary memory such that the new data segment is stored in primary memory in non-used memory space;

(3) identifying the previous logical data segment in primary memory;

(4) creating a logical link between the previous logical data segment and the new data segment such that the logical link provides a path for sequentially accessing the data segments within the primary memory;

(5) creating additional serial and logical links as subsequent new data segments are written to primary memory, said logical links providing the path for serially accessing the data segments regardless of contiguity of the data segments relative to each other within the primary memory; and

(6) storing the data segments to primary memory in a manner consistent with an industry standard data storage format while retaining linking between data segments created in previous steps.

2. A record/playback device for use with a removable, interchangeable, flash memory recording medium which enables extended voice recording comparable with tape cassette dictating equipment, said device comprising:

a housing;

a first microphone element coupled to the housing and configured to receive and process sound into electrical signals;

a second microphone element coupled to the housing and configured to receive and process sound so as to cancel noise received at the first microphone element;

control circuitry coupled to the microphone element and including signal input circuitry, amplification circuitry, analog-to-digital conversion circuitry, memory control circuitry, signal output circuitry and control logic circuitry for performing record and playback functional operations with respect to the electrical signals and other regulated components of the record/playback device;

said switch means coupled to the control circuitry for selecting the desired functional operations to be performed;

a receiving socket electrically coupled to the memory control circuitry and configured for electrical coupling with a flash memory module which operates as sole memory of the received processed sound electrical signals and is capable of retaining recorded digital information for storage in nonvolatile form; and

a speaker coupled to the control circuitry for playback of recorded digital information; and a power source coupled to the control circuitry for supplying electrical power to the device.

3. The device as defined in claim **2** wherein the device further comprises a barcode reader coupled to the digital signal processor for optically scanning barcode data, amplifying and digitizing the barcode data, decoding the barcode data and transmitting the barcode data to the digital signal processor.

4. The device as defined in claim **2** wherein the device further comprises an infra-red transceiver circuit coupled to the digital signal processor for selectively transmitting data from the digital signal processor, and for selectively receiving data which is transmitted to the digital signal processor.

5. A record/playback device for use with a removable, interchangeable, flash memory recording medium which enables music recording and playback comparable with compact disc (CD) quality equipment, said device comprising:

a housing;

a first microphone element coupled to the housing and configured to receive and process a first channel of sound into electrical signals;

a second microphone element coupled to the housing and configured to receive and process a second channel of sound into electrical signals;

a two channel, CD quality stereo signal pre-amplifier for receiving the first channel and the second channel of sound from the first and the second microphones;

control circuitry coupled to the microphone element and including two channel analog-to-digital conversion circuitry, memory control circuitry, signal output circuitry and control logic circuitry for performing music record and playback functional operations with respect to the electrical signals and other regulated components of the record/playback device;

said switch means coupled to the control circuitry for selecting the desired functional operations to be performed;

a receiving socket electrically coupled to the memory control circuitry and configured for electrical coupling with a flash memory module which operates as sole memory of the received processed sound electrical signals and is capable of retaining recorded digital information for storage in nonvolatile form; and

a speaker coupled to the control circuitry for CD quality playback of recorded digital information; and a power source coupled to the control circuitry for supplying electrical power to the device.

6. The device as defined in claim **5** wherein the device further comprises an infra-red transceiver circuit coupled to the digital signal processor for selectively transmitting data from the digital signal processor, and for selectively receiving data which is transmitted to the digital signal processor.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 5,839,108
APPLICATION NO. : 08/884245
DATED : November 17, 1998
INVENTOR(S) : Daberko et al.

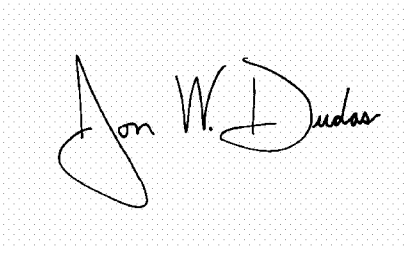
It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 11, line 56 in claim 2, please delete the word "said"

Column 12, line 42 in claim 5, please delete the word "said"

Signed and Sealed this

Twenty-fifth Day of September, 2007



JON W. DUDAS
Director of the United States Patent and Trademark Office

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United States Patent [19]

Norris et al.

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[54] **HANDHELD RECORD AND PLAYBACK DEVICE WITH FLASH MEMORY**

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[73] Assignee: **Comp General Corporation**, Poway, Calif.

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[52] **U.S. Cl.** **395/2.79**; 369/29

[58] **Field of Search** 395/2.79, 2.85, 395/2.86, 2.44; 369/25, 29; 364/419.15

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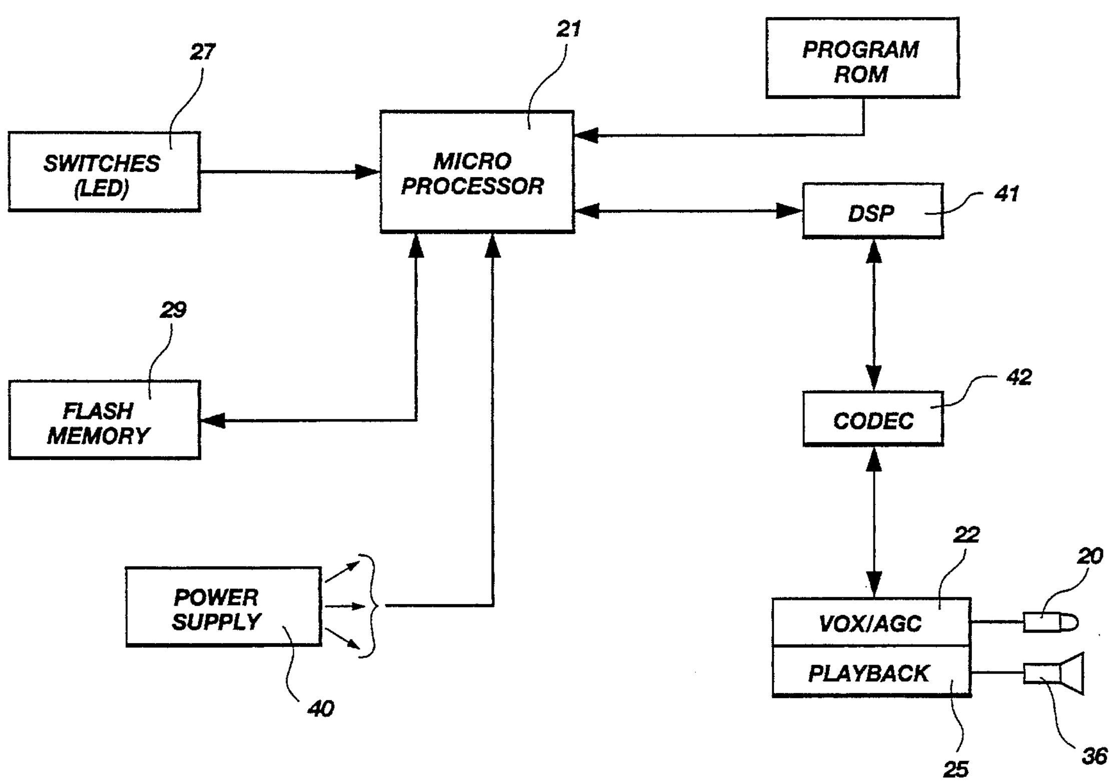
Assistant Examiner—Michelle Doerrler
Attorney, Agent, or Firm—Thorpe, North & Western

[57] **ABSTRACT**

A record/playback device for use with a removable, interchangeable, flash memory recording medium which enables extended recording comparable with tape cassette dictating equipment. The device includes a housing, a microphone element, control circuitry and a switch mounted on the housing for selecting desired functional operations. A receiving socket is coupled to memory circuitry associated with the control circuitry and is configured for electrical coupling with a flash memory module adapted for receiving and retaining recorded digital information for storage in nonvolatile forme.

22 Claims, 7 Drawing Sheets



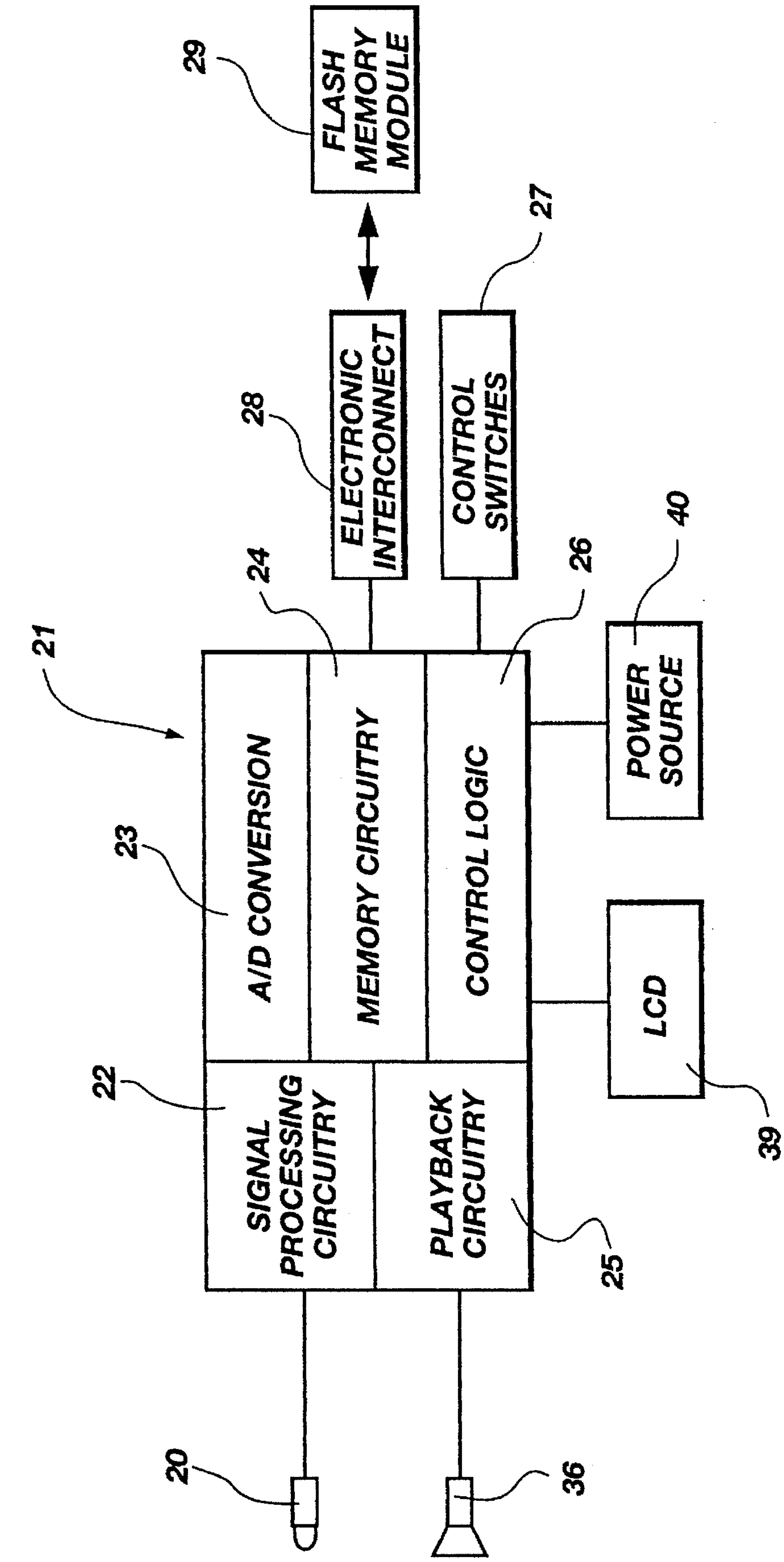

FLASH MEMORY MODULE
29
27
ELECTRONIC INTERCONNECT
28
CONTROL SWITCHES
24
26
40
21
POWER SOURCE
A/D CONVERSION
MEMORY CIRCUITRY
CONTROL LOGIC
23
LCD
22
SIGNAL PROCESSING CIRCUITRY
PLAYBACK CIRCUITRY
39
25
20
36

Fig. 1

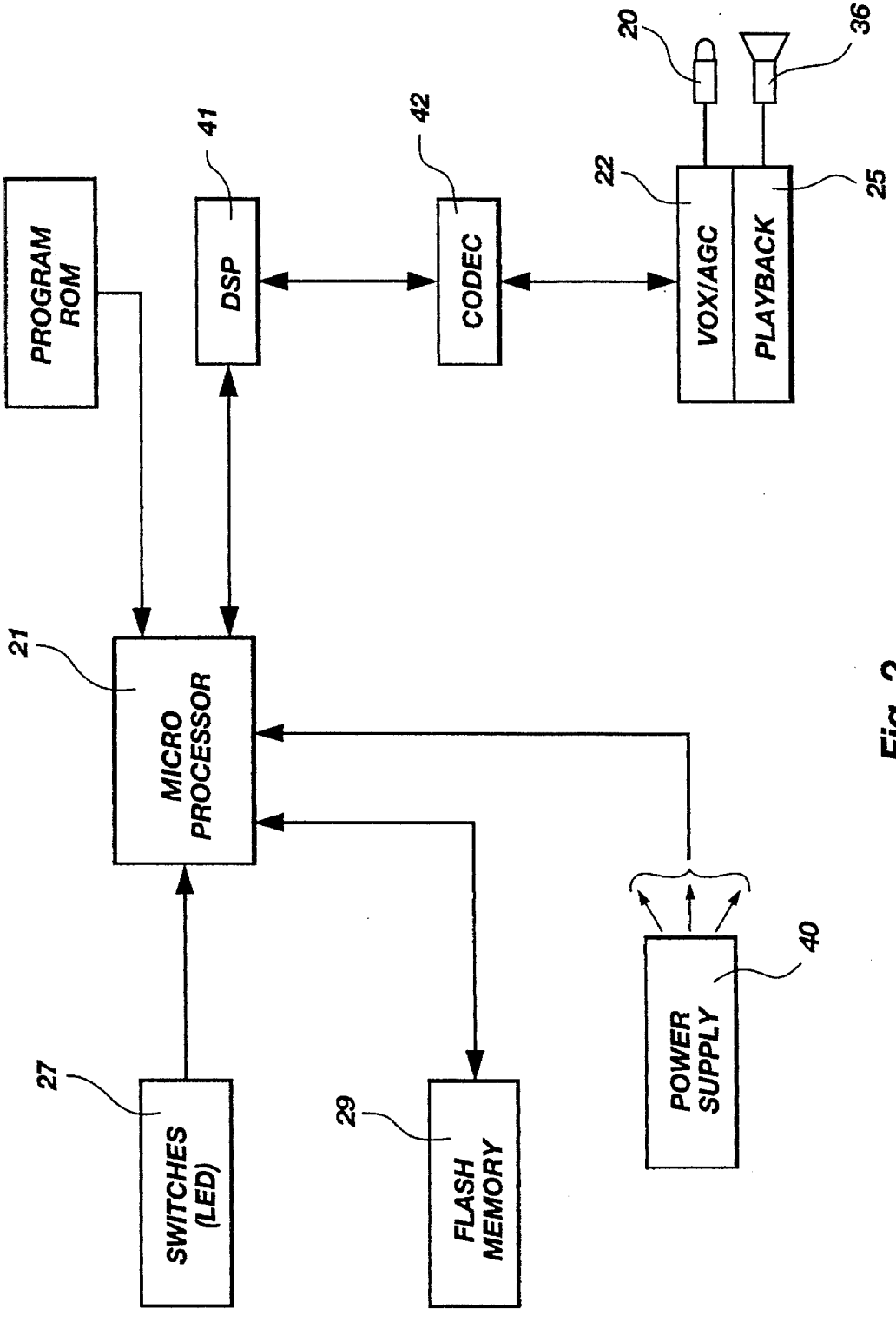

20
36
41
42
22
25
PROGRAM ROM
DSP
CODEC
VOX/AGC
PLAYBACK
21
MICRO PROCESSOR
27
SWITCHES (LED)
29
FLASH MEMORY
POWER SUPPLY
40

Fig. 2

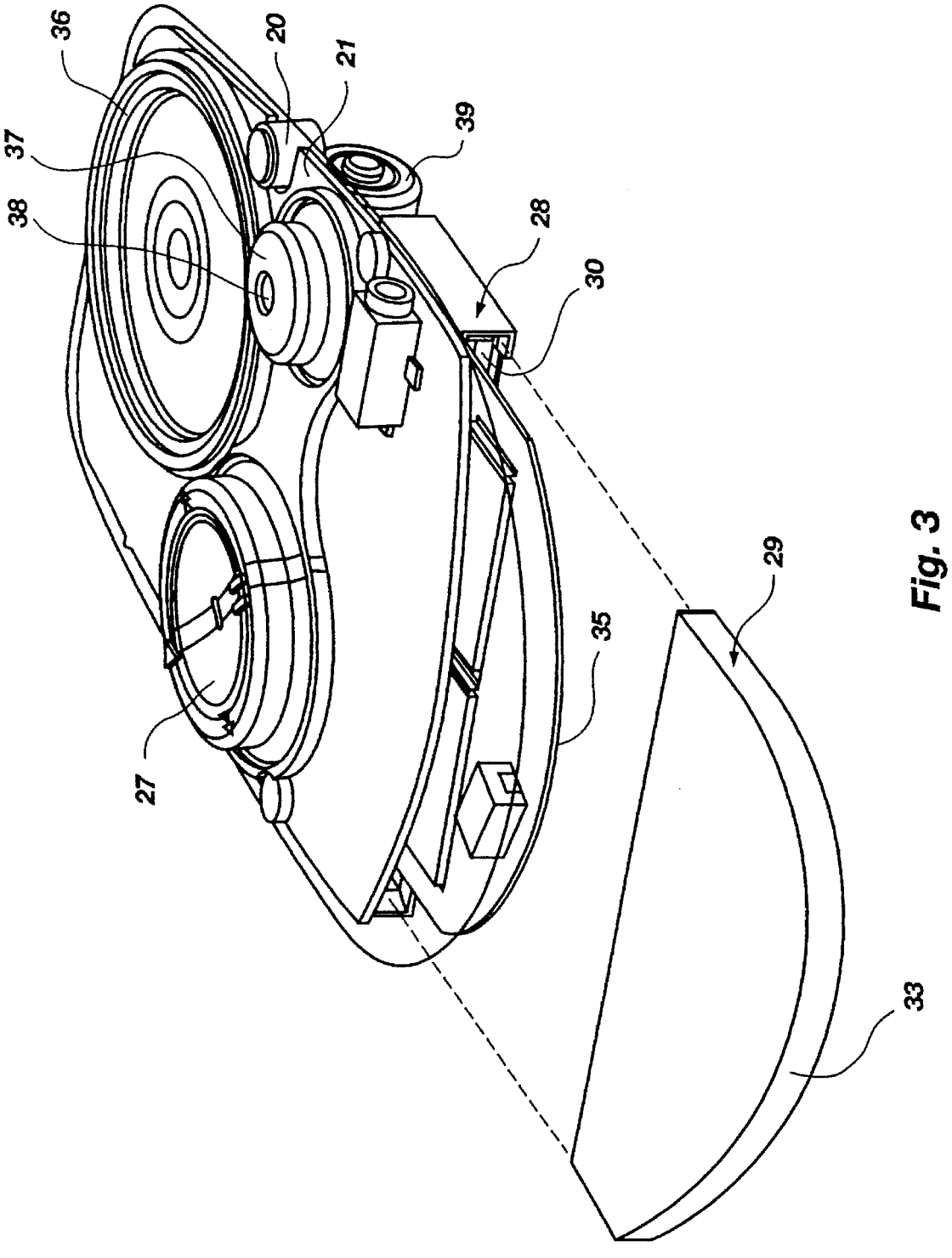
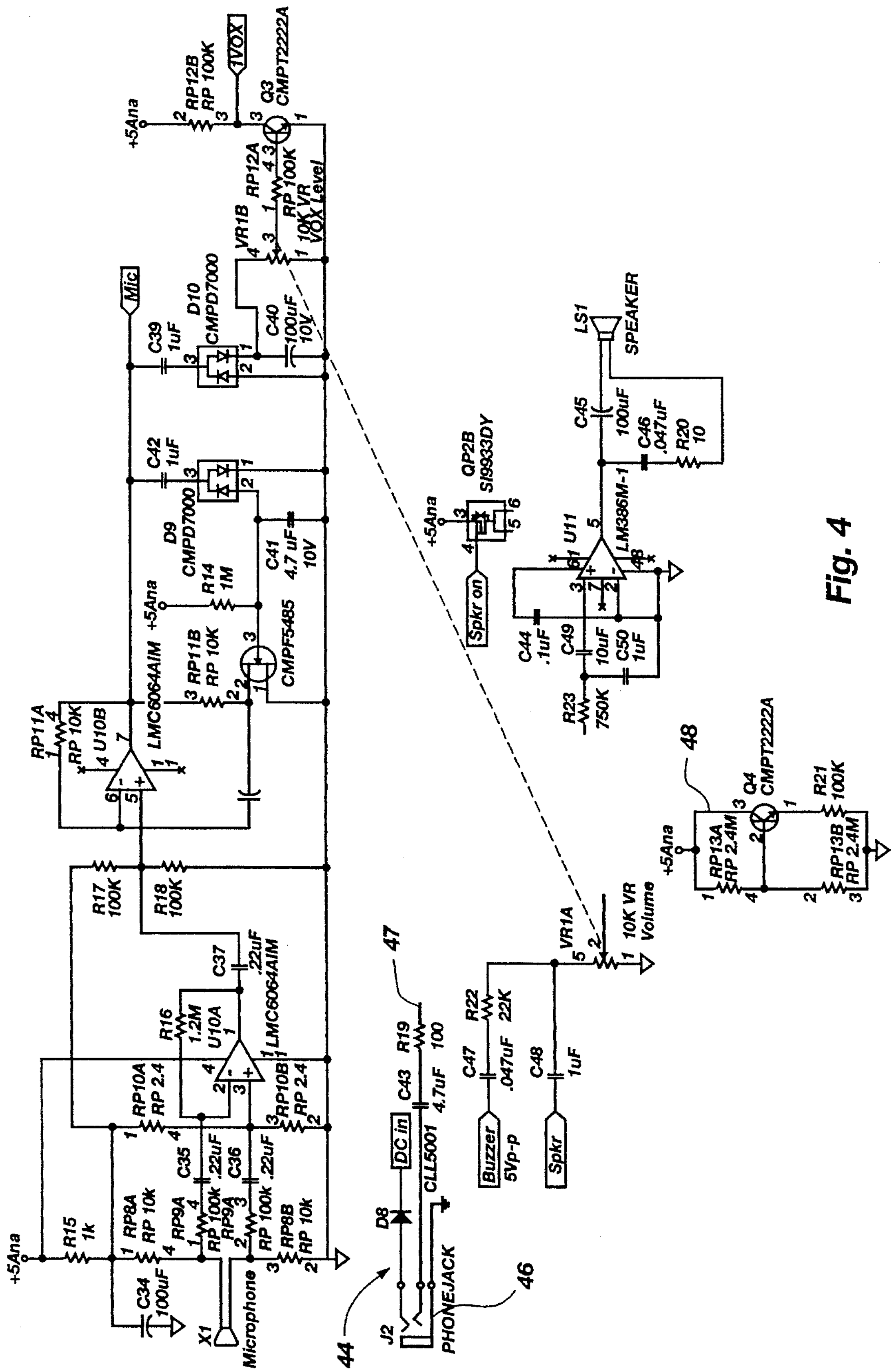


Fig. 3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RP 100K
Q3
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+5Ana
RP12A
RP 100K
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VOX Level
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CMPD7000
C39
1uF
C40
100uF
10V
C42
1uF
D9
CMPD7000
R14
1M
C41
4.7 uF
10V
RP11B
RP 10K
CMPF5485
RP11A
RP 10K
U10B
LMC6064AIM
R17
100K
R18
100K
C37
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R16
1.2M
U10A
LMC6064AIM
RP10A
RP 2.4
RP10B
RP 2.4
C35
.22uF
C36
.22uF
R15
1k
RP8A
RP 10k
RP9A
RP 100k
RP8B
RP 10k
C34
100uF
X1
Microphone
J2
PHONEJACK
D8
DC in
CLL5001
C43
4.7uF
R19
100
Buzzer
5Vp-p
C47
.047uF
R22
22K
Spkr
C48
1uF
VR1A
10K VR
Volume
Spkr on
QP2B
SI9933DY
C44
.1uF
C49
10uF
C50
1uF
R23
750K
U11
LM386M-1
C45
100uF
C46
.047uF
R20
10
LS1
SPEAKER
RP13A
RP 2.4M
RP13B
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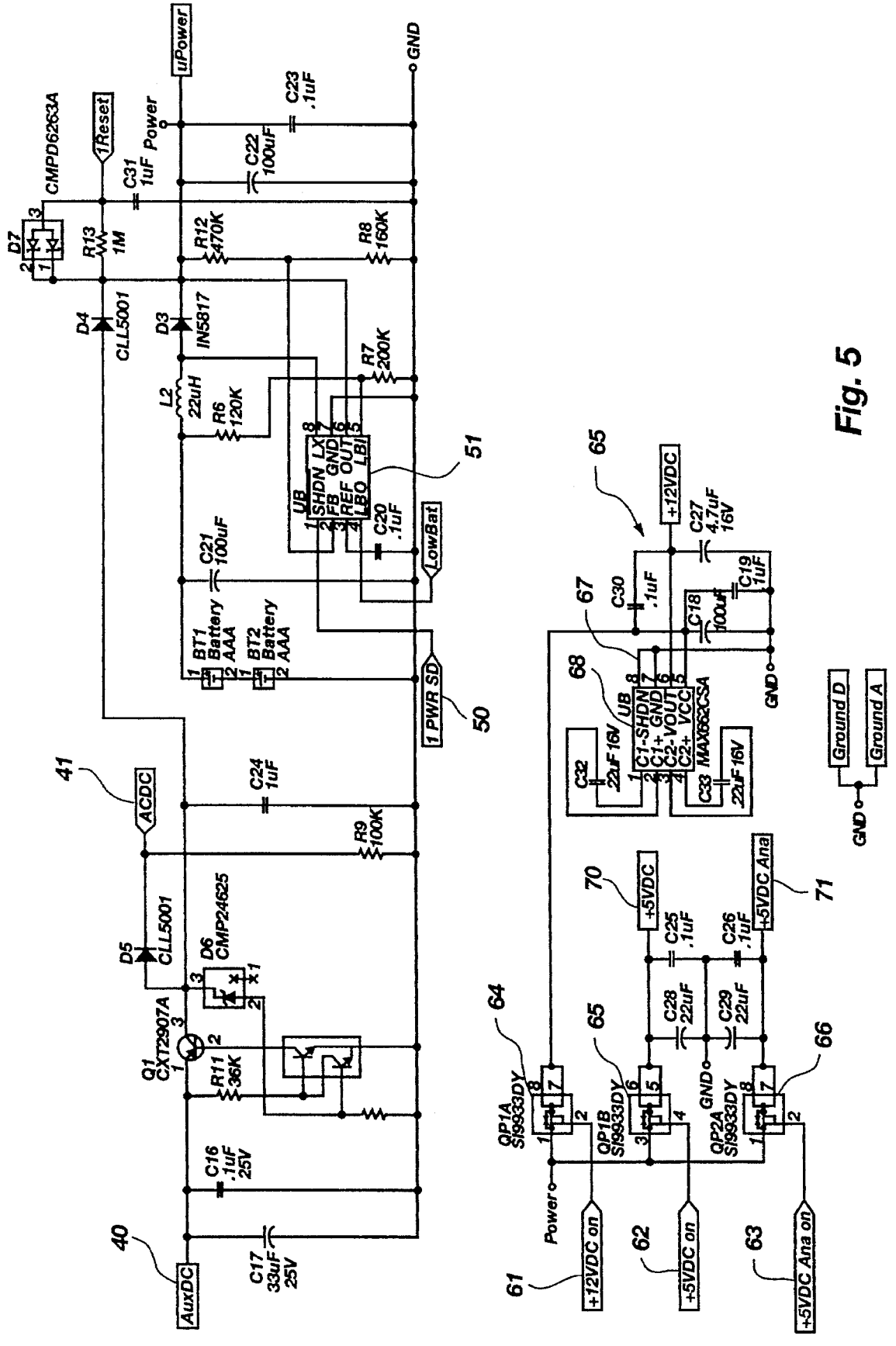
Q4
CMPT2222A
R21
100K
44
46
47
48

Fig. 4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D7
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D4 CLL5001
D3 IN5817
R7 200K
L2 22uH
R6 120K
U8 SHDN LX FB GND REF OUT LBO LBI
51
C20 .1uF
C21 100uF
LowBat
BT1 Battery AAA
BT2 Battery AAA
1 PWR SD
50
41
ACDC
C24 1uF
R9 100K
D5 CLL5001
D6 CMP24625
Q1 CXT2907A
R11 36K
C16 .1uF 25V
C17 33uF 25V
40
AuxDC
65
+12VDC
C27 4.7uF 16V
67
C30 .1uF
C18 100uF
C19 1uF
68
U8 MAX662CSA
C1-SHDN
C1+ GND
C2- VOUT
C2+ VCC
C32 22uF 16V
C33 22uF 16V
GND
Ground D
Ground A
GND
70
+5VDC
C25 .1uF
C26 .1uF
+5VDC Ana
71
64
65
66
C28 22uF
C29 22uF
QP1A SI9933DY
QP1B SI9933DY
QP2A SI9933DY
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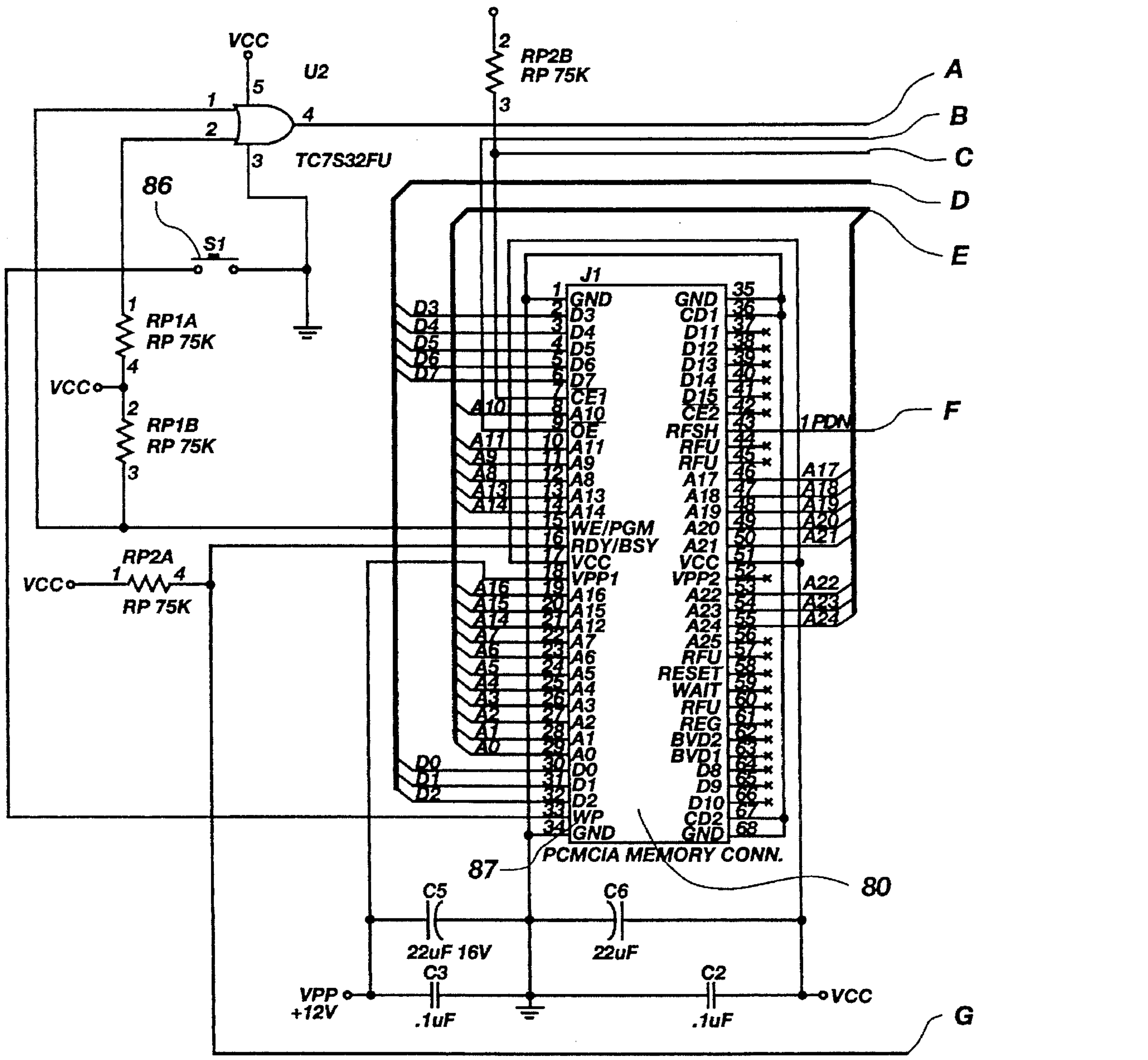
+12VDC on
62
+5VDC on
63
+5VDC Ana on

Fig. 5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RP 75K
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S1
RP1A
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RP2A
RP 75K
J1
PCMCIA MEMORY CONN.
87
80
C5
22uF 16V
C6
22uF
C3
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C2
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VPP
+12V
VCC
A
B
C
D
E
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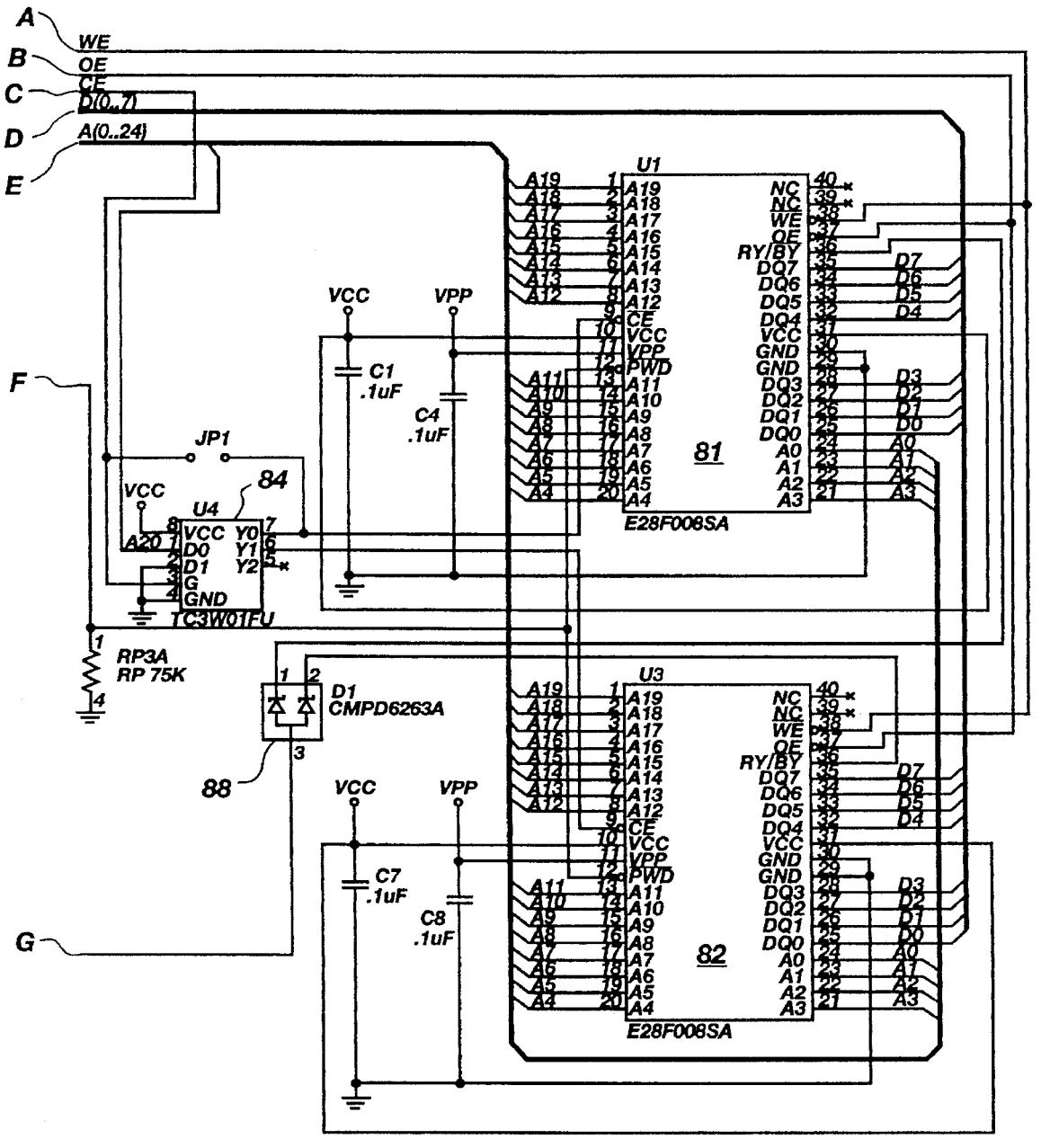
G
1PDN

Fig. 6A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CE
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A6
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A4
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DQ7
DQ6
DQ5
DQ4
GND
DQ3
DQ2
DQ1
DQ0
A0
A1
A2
A3
D7
D6
D5
D4
D3
D2
D1
D0

Fig. 6B

HANDHELD RECORD AND PLAYBACK DEVICE WITH FLASH MEMORY

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to voice recording and playback devices which include a removable recording medium capable of ready transfer to another similar recording device. More particularly, the present invention pertains to a voice recording and playback device which utilizes a nonvolatile, computer memory chip for record or playback operation for time durations equivalent to cassette tape recorders.

2. Prior Art

The development of devices that are capable of electronic recording and playback using interchangeable recording media has evolved through many technologies. Such electronic reproduction of speech has generally relied on the use of a separate and removable medium, such as a cassette tape, which stores a signal capable of reproduction through some form of amplification system. Such mediums have also included vinyl records and plastic laser disks.

A common characteristic of each of these media is a dependence upon the relative movement of the medium with respect to a sensor to facilitate recovery of the stored signal for reproduction. This requirement for physical movement has necessitated substantial power requirements implemented with hardware components which take up significant space. For example, early records made of vinyl required a turn table and drive mechanism for maintaining a controlled rate of speed. Similarly, cassette recordings utilize a capstan and mechanical drive belt system for maintaining tape speed at a predetermined rate. Laser disks require comparable drive mechanisms to facilitate relative movement of the sensor with respect to the compact disc media.

In addition to mechanical movement of the media, technical difficulties in minimizing background noise associated with sensor pickup continues to test the best minds within the recording industry. For example, stylus design for records has placed primary focus on controlling physical contact of the needle on the vinyl record. Advanced filtering techniques were applied to circuits to reduce resultant noise to a minimum.

Although laser disc technology has overcome many of the physical contact problems, optical reading systems still require conversion of an optical signal to an electrical signal. This conversion process also generates artifact signals which lead to unwanted background noise.

Concurrent with progressive improvement in drive mechanisms has been an increasing consumer interest in reduced size and increased versatility of the recorder itself. As a consequence, pocket sized recorders have become commonplace, whether based on cassette tapes or more current compact disk technology. Nevertheless, the requirement for a drive mechanism continues to limit the extent of size reduction. Indeed, most of the weight and volume of a typical record and playback device comprises the mechanical drive mechanism, associated power supply and control system. Despite decades of technical development, the voice recording and playback industry (dictation devices) continues to depend on the combination of mechanical movement of a removable recorded medium in combination with a pickup sensor.

This almost universal commitment to the use of a moveable medium, such as a cassette tape, continues despite years of experience with fixed memory within computers. For example, it is well known to store virtually all forms of data in either digital or analog format within a computer. This data may even include voice information. Although this information is available for recall, it has not led to the development of a hand-held dictation device which allows convenient use of a removable medium that can be readily inserted into a simple recording device for immediate playback or simple transfer to another similar hand-held recorder.

This use of a fixed memory storage system for voice information has also branched into peripheral components of other equipment, such as telephones. Even when used as part of a telephone answering machine for providing the prerecorded message, common practice is still to apply a cassette recording system for recording incoming messages for storage and playback. Therefore, the basic system either uses a conventional cassette recorder or relies on fixed memory storage which lacks the ability for simple and convenient transfer to other similar units as part of a readily removable, interchangeable, recording medium.

Attempts have also been made to apply fixed memory storage to hand-held devices. Commercial success, however, has been frustrated by the same inadequacies that have sustained allegiance to the standard cassette recorder over the years. For example, Information Storage Devices, Inc., has developed a small, voice record/playback device having nonvolatile memory which is stored in an EEPROM in natural analog form. Unfortunately, the analog storage format has only limited memory capacity, resulting in a short operation span of less than several minutes. Furthermore, the device retains the conventional computer format with no removable and interchangeable recording media comparable to the standard cassette. Without this convenient interchangability aspect, the small device operates with the same limitations of a conventional computer system.

OBJECTS AND SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide a record/playback device utilizing a computer chip memory which offers long play operation similar to standard cassette tapes or compact disks.

It is a further object of this invention to provide such a device which has no moving parts, and in particular, no drive mechanism or means for moving a recording medium.

Yet another object of this invention is a record/playback device which utilizes nonvolatile memory stored in an integrated chip of compact size.

A still further object of this invention is to develop a record/playback device which is approximately the size of a business card with capability of recording and playing messages which are permanently stored without a need for continuous power to maintain the memory.

Yet another object of this invention is to provide an improved dictation device which has enhanced operational control, efficiency and compactness.

An additional object of this invention is to provide a record/playback device which may be inserted in a file or personal record and which carries a stream of recorded, ongoing data which can be accessed for later use such as records relating to medical data on an individual.

It is a further object of this invention to provide a record/playback device which can be readily incorporated into monitoring devices which provide data output for keeping a permanent record of such data output.

These and other objects are realized in a record/playback device for use with a removable, interchangeable, flash memory recording medium which enables extended recording of 30 minutes or more. The device includes a microphone element configured to receive and process sound into electrical signals and control circuitry coupled to the microphone element and including signal input circuitry, amplification circuitry, analog-to-digital conversion circuitry, memory circuitry, signal output circuitry and control logic circuitry for performing record and playback functional operations with respect to the electrical signals and other regulated components of the record/playback device. A receiving socket is electrically coupled to the memory circuitry and configured for electrical coupling with a flash memory module which is capable of retaining recorded digital information for storage in nonvolatile form. A speaker is coupled to the control circuitry for playback of recorded digital information and a power source is coupled to the control circuitry for supplying electrical power to the device.

Other objects and features of the present invention will be apparent to those skilled in the art, based upon the following detailed description and the accompanying drawings.

DESCRIPTION OF THE DRAWINGS

FIG. **1** is a block diagram providing a functional layout for the present invention.

FIG. **2** is an alternate block diagram providing additional detail on the functional operations of the subject invention.

FIG. **3** is a graphic illustration of the present invention in product form.

FIG. **4** is a schematic diagram illustrating component circuitry of the present invention.

FIG. **5** is an additional schematic diagram showing other circuitry associated with the present invention.

FIGS. **6**A and **6**B comprises a split circuit diagram for a flash memory module for use with the present invention, the combined figures representing a single circuit diagram.

DETAILED DESCRIPTION OF THE INVENTION

The present invention departs from long standing tradition which dictates the use of a moving media such as a cassette tape or compact disk as a requirement for an acceptable dictation device. Instead, it offers the advantages of a removable element smaller in size than a cassette tape, but which has no moving parts. This removable component comprises a flash memory chip or module which has the capacity to store digital information without need for ongoing power support. The stored information is substantially permanent and is not susceptible to magnetic erasure or modification. This information can be immediately recovered by inserting the module into any compatible recorder for immediate playback. It therefore functions in a manner comparable to a conventional handheld recorder, but without the deficiencies noted above for mechanical drive systems.

The record/playback device comprises a microphone element **20** which is coupled to control circuitry **21** which processes the audio signal. Any microphone element may be used. The illustrated microphone is an electret element which is commonly used in handheld dictaphone equipment.

The control circuitry **21** includes signal input and amplification circuitry **22**, analog-to-digital conversion circuitry **23**, memory circuitry **24**, signal output circuitry **25** and control logic circuitry **26** for performing record and playback functional operations with respect to the electrical signals and other regulated components of the record/playback device. Some of these functions are manually controlled by the operator with switches **27**, as well as automatic operations controlled by software and firmware elements of the device. These components are discussed in greater detail hereafter.

An electronic interconnect means **28** is electrically coupled to the memory circuitry **24** and is configured for removable, electrical coupling with a flash memory module **29** capable of retaining recorded digital information for storage in nonvolatile form. The flash memory module is a digital memory storage device manufactured by Intel Corporation of Santa Clara, California (see U.S. Pat. No. 5,267,218). This module **29** includes a plurality of memories arranged in an array, which can be electrically programmable or erasable. Prior applications have been substantially limited to storage of data as part of a computer memory. Their use with a handheld dictation device has not been noted, perhaps because of the traditional expectation for need of a moving recording media.

Control of the circuitry may be by voice command where appropriate voice-to-text software is imbedded for converting the audible signal to digital command form, or it may be by manual switches as illustrated in the drawings. Specifically, a single, manually operable rocker pad **27** is centrally mounted upon a pivot support such that the rocker-pad is pivotable on respective right-angle directions responsive to manipulation of the user's thumb. This configuration enables the user to grip the recording device with one hand and easily manipulate the rocker pad to selectively execute any of a plurality of command schemes. In addition to PLAY, PAUSE, REWIND, FAST FORWARD, and SCAN commands, the rocker-pad enables INCREMENTAL FORWARD AND REARWARD MOVEMENT, DELETE, SPEED ADJUSTMENT, and other features which are essentially programmed within the control circuitry. The details of design for the rocker-pad are the subject matter of a copending patent application entitled MULTIDIRECTIONAL SWITCH ASSEMBLY FOR HAND HELD RECORDING DEVICES, filed concurrently with the present disclosure, and incorporated herein by reference.

A record control button **37** is isolated from the rocker-pad master control switch to prevent inadvertent over-write when processing through the previously described functions. This record switch **37** activates the record circuitry which requires increased voltage levels for data transfer to the flash memory module. Repeated depressing of the switch **37** operates to toggle the record circuitry between ON and OFF. A conventional LED **38** provides notice to the user when the record mode is activated.

The interconnect means **28** comprises a socket **30** configured to be PCMCIA compatible and sized to receive the flash memory module **29**. When inserted within the socket **30**, pins of the module **29** seat within pin receptacles of the interconnect means **28**. In this sense, the small memory module is functionally similar to a cassette, in that it is inserted and removed at will. Furthermore, it can be readily inserted in other compatible machines for interchangeable use.

It will be noted from the figures that the memory module **29** is adaptable to small sizes and variable shapes because there is no requirement for moving reels or spindles to carry tapes or discs. Accordingly, size reduction benefits arise within both the recorder device which no longer requires a complex mechanical drive system, as well as the recording medium itself. The illustrated size has been adapted with contour **33** to match the shape and contour **35** of the handheld recorder. Virtually any shape may be selected, however, as long as the PCMCIA insert portion is compatible with its receiving slot **30**.

A speaker **36** is coupled to the control circuitry **21**, and specifically to the record playback circuitry **25**, for playback of recorded digital information. Hereagain, the speaker device and attachment techniques are conventional parts of a recorder device. Selection of a specific speaker will depend on the desired quality of reproduction, as well as size limitation. For example, the speaker may consist of an ear plug jack and removable ear plug. Where the device is used for playback of music, a high fidelity speaker may be desired.

The control circuitry **21** and associated functional components are powered by a battery source **40**, which is described in greater detail hereafter. Control circuitry is provided to enhance power conservation and to more effectively control allocation of voltage levels to circuitry components in accordance with specific power needs. The control circuitry includes embedded software commands for disabling certain circuitry components when not needed, as well as trigger commands to restore power for rapid response of disabled circuits. An alternate AC/DC input port is also provided.

An additional significant feature of the present device comprises compression circuitry **41** and **42** coupled to the memory circuitry **24** (generally forming part of the control circuitry generally identified as **21**) for compressing digital signal for storage in the flash memory module. This circuitry includes a DSP 41 and CODEC 42 which cooperate to compress data at a ratio of 16:1 for storage. Applying such data compression provides record times of 60 minutes or more, corresponding to traditional cassette tape recording times. These same components **41** and **42** cooperate as data retrieval circuitry for expanding compressed signal to a useful output signal to be sent to the speaker **36**.

Those skilled in the art will be enabled to practice the present invention based upon the preceding functional description of the inventive features, referenced to the block diagrams of FIGS. **1** and **2**. The following expanded explanation is provided to facilitate an understanding of the preferred embodiment of the invention as illustrated in the drawings for a handheld device for voice dictation and retrieval. Reference to block diagram numerals will be made where possible. More specific detail as to circuitry components will be understood by those skilled in the art and may be implemented with components currently available in the market.

Overall system design is based on the use of a microprocessor which can drive all system components. This eliminates the need for use of multiple interface logic that demands a lot of board space within the circuitry. The DSP or digital support processor is coupled to the microprocessor and to a CODEC for coding and decoding the analog signal received from the microphone or transmitted to the speaker. Codec also performs the analog to digital conversion. It functions to receive the analog signal input and convert it to PCM or pulse code modulation and then feed this signal to the DSP. Conversely, when operating in play back mode, the DSP will feed pulse code modulation digital signal to the codec and the codec converts it to an analog signal that can be fed through an amplifier to a speaker.

Once the DSP compresses that data through customary hardware handshaking techniques, it feeds the data back to the microprocessor through a host bus. The basic functionality is as follows. If in a recording mode, the microprocessor sends commands to the DSP placing it into a record mode. The microprocessor places the DSP in a record mode where it retrieves data from the codec, compresses it and returns it to the microprocessor in the form of status words. The mircrontroller then takes that data and sends it out to the PCMCIA connector or through the PCMCI connector to the flash memory module.

To get the data back, the status request command is sent by the microprocessor and data is returned in compressed form. The compressed data is retrieved in 16 bit format. The specific addresses are written in the microprocessor for maintaining data location. The process involves sequential addressing through flash memory. The microprocessor's responsibility is to separate different messages and to be able to index the different messages and the different offsets within those messages. It maintains an address pointer and sequentially takes byte information from the DSP and writes it to memory in the form of a file. Conversely, the microprocessor in the play scenario places the DSP in a play mode and the DSP expects to be fed compressed data information at a specific rate. That rate is governed by hardware handshaking signals between the DSP and the microprocessor.

The microprocessor monitors data transfer status and every time the DSP is ready for another byte of information, it goes to flash, reads that byte of information from a location for spotting to a certain offset inside of a message, reads it back into the microprocessor and then writes it out to the DSP. The DSP takes blocks of 28 bytes and expands them and decompresses them into pulse code modulation. Each of those 28 bytes corresponds to 33 milliseconds of recorded analog signal.

The audio processing circuitry **22** and **25** includes circuitry that conditions the analog signal for both recording and playback. It feeds the signal through a differential amplifier. This boosts the signal and also removes common mode noise to produce a quieter signal. Following this conditioning, the signal is processed through an automatic gain control circuit (AGC) where the recording level is automatically adjusted to a favorable level.

Also attached to the recording circuit is a VOX circuit for implementing voice operated recording. This circuit determines the threshold for automatically activating the recording mechanism. This feature is typically available on dictating equipment for facilitating hands-free use.

The speaker circuit **25** includes a buzzer input, which consists of a single line from the microprocessor which allows the microprocessor to pulse out a digital signal that serves as a beep or warning sound to the user. For instance, if recording medium storage capacity is approaching full, the microprocessor initiates a warning signal which generates an LED flash and/or an audible beep.

There is also logic within the microprocessor such that if an earphone is plugged into an earphone jack, the microprocessor senses that there is an earphone in place and shuts down the speaker. This component of the playback circuit **25** is unique from conventional recorder circuitry in that the speaker is not disconnected by a physical switch upon entry of the earphone jack. In the present invention, the circuitry

includes a combination AC adapter/earphone jack, which eliminates the need for a separate power input plug. This is significant not only because the earphone and AC/DC plug elements are the same size and therefore interchangeable, but this common jack input further reduces the physical size of the recorder.

The preferred circuitry for this combined AC/DC power input and earphone is illustrated in the signal processing circuit diagram of FIG. **4**. This circuit will be explained in combination with FIG. **5**, representing the power input circuitry and power conservation design. This earphone/power input circuit is designed to sense the power input signal. If a jack has been placed into the circuit, the speaker is disconnected based on whether or not a voltage is present.

Referring to the upper left hand corner of FIG. **5**, a voltage signal from the ear phone DC power adapter jack is fed to a DC power input **40** of the circuit. This circuit regulates the voltage to a useful level for the main power supply circuit. This circuit also generates a signal at contact **41**, referred to as AC/DC. The AC/DC signal is sent to the microprocessor. If that signal is true, the microprocessor knows that a power adaptor has been plugged in and does not attenuate the speaker. Therefore, the speaker stays on if a DC power source is added. The earphone does not establish a voltage, and therefore the voltage signal stays low and turns off the speaker based on that reduced signal.

Referring to the circuit diagram of FIG. **4**, the combined earphone jack and power input are shown generally at **44**. The DC-In contact **45** couples with the DC Power input **40** explained above. A standard **1/8** inch stereo phone jack **46** is used to service both earphone and power plugs. A second circuit connection **47** is supplied with a small voltage signal from a transistor amplifier **48** so that when the is speaker disabled by plugging in a earphone, only this small voltage transistor amplifier is driving it. This occurs because a signal is sent to the microprocessor which shuts down the power amplifier. Accordingly, operation of the speaker is electronically controlled by the microprocessor, rather than relying on a mechanical switch as with the prior art.

Diode **D8** coupled in series with the jack **44** not only blocks any direct current, but also limits voltage to DC. Accordingly, the plug **44** will accept both AC and DC. An AC power source will simply be changed to pulsating DC, and will then be fed to the regulator circuit through **47** to be discussed hereafter. This regulator circuit operates to bypass the batteries as part of a power conservation system.

In the illustrated embodiment, two triple A batteries **39** initially power up the microprocessor with three volts. The unit is driven at three volts to conserve power. During normal operation, the voltage of the microprocessor and the rest of the circuitry is raised and lowered according to need as dictated by the microprocessor. There is an input signal **50** which is driven by the microprocessor. If a power shut down signal is received, the DC to DC converter **51** is disabled. A primary function of the DC to DC converter is to raise the three volt battery voltage up to five volts, which is the nominal operating voltage for the rest of the circuitry. Although the microprocessor does not require this higher voltage, other functional parts of the circuit, such as the flash memory write program, do operate at higher levels.

The typical microprocessor for this type of recorder operates in a very large voltage range from as low as 1.8 volts. This enables operation when batteries are low. The microprocessor also happens to be the lowest power consuming element of the device. It can be put into several modes of operation, such as a slow speed operating mode

where it runs at a very low clock speed and it can run down to 0.8 volts. Alkaline cells **39** generally will operate at low range down to about 0.8 to 0.9 volts before dropping off rapidly. Therefore, two batteries in series provides reliable power down to about 1.8 volts, after which the batteries will drop off quickly and fail.

This pattern of degeneration coincides with the minimal operating voltage for the microprocessor which is 1.8 volts, making the microprocessor available to manage the various functions of the device until total battery failure. Therefore, the microprocessor can detect when it needs to use different software to operate the system and disable other systems to preserve power. In addition, the microprocessor also sends a signal back **50** for power shut down to reduce its own power voltage level from 5 volts down to the current battery voltage of 3 volts when fully charged, and as low as 1.8 volts as the batteries age.

This operating range enables the microprocessor to shut down the DC to DC convertor, which also consumes power and is more inefficient. For example, a typical DC to DC converter will operate at 85 percent efficiency, leaving a fifteen percent power loss. By disabling this circuit, this excess power drain is avoided. During periods of nonuse, the microprocessor software algorithm determines that full power supply is not needed, and goes into a complete shutdown. The microprocessor then converts the keyboard input to a wake up function, with all other systems at a halt stage.

A "halt stage" occurs when the circuitry is no longer executing functional commands and the clock is no longer running. It is now running in its minimal operating mode which will be drawing from 1 to 2 microamps of current with nominal battery drain. In that low power mode the battery life is just as good as shelf life. In fact, it would take years to deplete normal batteries. The halt mode is tantamount to a full power off disconnection.

When a key or switch **27** on the unit is activated, the microprocessor wakes up, sensing a signal that generates an interrupt which starts the clock. The microprocessor starts running and executing command code. It can then interrogate what key was pressed and determine what action it needs to take, such as play or record. Normally, those functions will involve applying added power to other support circuits.

FIG. **5** illustrates the circuitry for supplying variable voltage. Three power out lines **61**, **62**, and **63** are driven by the microprocessor. Signals from these power sources go to electrical switches such as MOSFET devices **64**, **65**, **66** that distribute power to different parts of the circuitry. Generally, this occurs after the DC to DC converter has been switched on and is producing 5 volts for general operation.

In addition to producing the power up 5 volts, the DC to DC convertor also serves as the 5 volt source for everything else including the flash and the analog circuity. Once the microprocessor has brought up the DC to DC convertor, it will then apply power as needed for signals **61**, **62** and **63**. In other words if a 12 volt signal is needed for writing to flash memory, it will send a true signal to item number **61**. A true signal there will turn on the MOSFET **64** which will apply power to a small additional DC to DC convertor **65**. This additional DC to DC convertor **65** takes the 5 volt input and uses a charge pump **66** to generate 12 volts. With that 12 volts supplied, the system can now write to flash memory.

Although the concept of using the DC to DC convertor to produce 12 volts is commonly used, shutting the power off as was previously described is unique. In conventional

systems, the microprocessor has a shutdown signal and many circuits will be required to implement control of that shutdown line (such as item **67**). The present design strategy avoids doing that because even though that shutdown signal number **67** will in effect turn the 12 volts on and off to the flash memory, to prevent accidental erasing, the charge pump **68** still operating and is inherently inefficient. This conventional approach allows excess power loss, accelerating battery failure.

In fact, it is part due to this new design feature that flash memory has be made adaptable for small, handheld recorders. For example, flash memory is commonly used on computer circuit boards where batteries are not the primary source of power. In this case, AC power is plentiful and power consumption is not an issue. Instead, power shutdown in conventional computer applications of flash memory is more of a safety precaution to prevent accidental erasing flash memory, rather than for conserving power.

With the 5 volts generated by the DC to DC converter, DC power is fed through three MOSFET devices. There are two branches **70** and **71** within that circuit. Line **52** assists in controlling the 5 volt power **70** which goes to flash memory as well as the DSP. The DSP of all the devices on the board currently are the most power hungry devices and like the charge pump, the 12 volt convertor can be shut down but even in a shut down state still draws a tremendous amount of power on the order of 5 milliamps. This is unacceptable in a shutdown state for a battery operated, hand held recorder.

With respect to line **63** of FIG. **5**, there is provided a 5 volt analog enable signal for noise reduction. It is important to keep the analog power supply separate of the digital power supply. This line feeds the amplifier circuits **71** and is a unique 5 volt power line separated from the other line for noise reasons. Digital circuits generate a fair amount of noise on the power lines. Without a separate line from the digital side, occasionally noise sounds through the speaker even though the DSP is turned off. For instance, in the event of a timing function or a low battery indication or VOX mode, if the unit is currently off because there is insufficient sound level the DSP will be powered down to conserve energy. In a quiet period it is unnecessary to drive all the digital circuitry. But the analog circuitry may be kept up for generating a warning sign, a beep or something that warns that batteries are getting low.

Turning now to a more detailed discussion of the flash memory module **29**, FIG. **6** provides a schematic diagram of the circuit board and components. A 68 pin PCMCIA connector **80** forms the interconnect between a pair of flash memory chips **81** and **82** and hand held recorder shown in FIG. **3**. All signals from the flash memory **81** and **82** pass through the connector **80**. The remaining circuitry controls how this removable module communicates with the main hand held unit, and also provides a write protect function which is carried on the removable module, in contrast to conventional practice of having write protect circuitry housed within the mother unit.

The respective flash memory chips **81** and **82** form the storage base for all recorded information. This memory is permanent, nonvolatile (requiring no power support for maintenance) and not subject to inadvertent alternation by magnetic fields. The two flash chips each have 8 megabits of storage capacity, given the stated compressure ratio. This yields approximately 40 minutes of recording time, which is competitive with current cassette tape systems. This circuitry is designed to accept larger capacity flash memory chips, as they become more economically feasible

The board has been designed such that one or two flash memory devices may be used. If two devices **81** and **82** are applied, the circuit is as shown, including a decoder chip **84**. If one device **82** is used, the second flash chip **81** is deleted, along with the decoder chip **84**. Instead, a jumper across item **85** is applied, allowing the board to be set up for a single flash memory chip configuration.

Of significant importance is the write protection circuitry provided. A switch **86** prevents erasure or deletion of data on flash memory when placed in a write protect position. For safety reasons, if the switch is closed the circuit is not write protected. If it is open, the circuit is write protected and you can not modify flash memory. Under this strategy of design, the flash memory is protected even if the switch oxidizes or becomes dirty because the switch will be open. In other words, the absolute protection comes from the open condition of the switch, wherein the write signal is interrupted, rather than being subject to the control of a special switch that must be closed for a write protect condition.

For example, in a standard cassette or compact disk device, an optical break or mechanical switch is provided on the mother unit. This switch is activated based on the position of a write protect element on the disk or compact disk. Hence, the mother unit controls the write protect function. The recording circuitry of the mother unit is turned on or off by the interrupt position on the cassette or disk. Therefore, if there is a defect in the mother circuit, the closed position of the write protect tab of the cassette may be ineffective, causing the loss of valuable data.

On the other hand, the present system has the write protect circuitry on the flash memory module. Therefore, the attempt of the mother unit to write to the disk will be blocked, because the absolute control of write protect is finally determined by the write protect circuitry of the memory module itself. In addition, a status signal is sent back to the PCMCI connector **87** advising that the device is write protected so that an appropriate error message can be generated if recording is attempted. With respect to the remaining circuitry, the illustrated capacitors are used for noise filtering. The power signals include VCC as 5 volt power, and VPP as 12 volt programming voltage. Both of power circuits have bypass caps to suppress operating noise. The pair of diodes **88** to assist in the handshaking involved between the microprocessor of the mother unit and the removable module, to coordinate the alternating write and hold patterns of the transmitting circuitry which writes segments of data to memory.

It will be apparent to those skilled in the art that numerous modifications to circuitry and design could be made the to embodiment disclosed herein. It is to be understood that such modifications are intended to be comprehended within the present invention, as defined by the following claims.

We claim:

1. A record/playback device for use with a removable, interchangeable, flash memory recording medium which enables extended recording comparable with tape cassette dictating equipment, said device comprising:

a housing;

a microphone element coupled to the housing and configured to receive and process sound into electrical signals;

control circuitry coupled to the microphone element and including signal input circuitry, amplification circuitry, analog-to-digital conversion circuitry, memory control circuitry, signal output circuitry and control logic circuitry for performing record and playback functional

operations with respect to the electrical signals and other regulated components of the record/playback device;

said switch means coupled to the control circuitry for selecting the desired functional operations to be performed;

a receiving socket electrically coupled to the memory control circuitry and configured for electrical coupling with a flash memory module which operates as sole memory of the received processed sound electrical signals and is capable of retaining recorded digital information for storage in nonvolatile form;

a speaker coupled to the control circuitry for playback of recorded digital information; and

a power source coupled to the control circuitry for supplying electrical power to the device.

2. A device as defined in claim **1**, comprises a flash memory module inserted within the receiving socket and which has the capacity to store digital information without need for ongoing power support.

3. A device as defined in claim **2**, wherein the flash memory module includes write protect circuitry operable independent of the record/playback device.

4. A device as defined in claim **3**, wherein the write protect circuitry includes power down circuitry which reduces the voltage of signal being sent to the flash memory module to a level below a required threshold voltage level required to modify memory within the flash memory module.

5. A device as defined in claim **4**, wherein the threshold voltage level for the flash memory module is approximately 12 volts, said control circuitry including a DC to DC converter for increasing voltage supplied by the battery source to the 12 volts, said power down circuitry of the write protect circuitry comprising means for disabling the DC to DC converter which supplies the required 12 volts.

6. A device as defined in claim **1**, wherein the device comprises a hand held, dictation recording device, configured operation with one-hand control means for performing operational functions including play, record, stop, and rewind.

7. A device as defined in claim **1**, wherein the switch means comprises a manually operable rocker pad mounted upon the housing such that the rocker pad is pivotable on respective right-angle directions responsive to manipulation of the user's thumb.

8. A device as defined in claim **7**, further comprising a record control button isolated from the rocker pad to prevent inadvertent over-write when performing other operational functions.

9. A device as defined in claim **1**, wherein the receiving socket of the device is configured to be Personal Computer Memory Card International Association (PCMCIA) compatible and sized to receive the flash memory module.

10. A device as defined in claim **1**, said device further comprising compression circuitry coupled to the memory circuitry for compressing digital signal for storage in the flash memory module.

11. A device as defined in claim **10**, wherein the control circuitry includes a Digital Support Processor (DSP) and Coder/Decoder (CODEC) which cooperate to compress data at a ratio of at least 16:1 for storage.

12. A device as defined in claim **1**, which further includes a single input jack for alternately receiving both an external Alternating Current/Direct Current (AC/DC) power plug and an earphone plug, thereby eliminating need for separate input plugs.

13. A device as defined in claim **12**, wherein the single input jack includes power sensing circuitry to sense a presence of a power input signal applied to the jack and to electrically switch off the speaker and associated circuitry.

14. A device as defined in claim **13**, wherein the power sensing circuitry includes (i) means for generating a voltage signal at the single input jack, (ii) means to transmit the voltage signal to a Direct Current (DC) power input of the control circuit and (iii) means within the control circuit for maintaining an electrical connection with the speaker when the voltage signal is present.

15. A device as defined in claim **1**, wherein the control circuit includes a microprocessor having logic instructions for detecting and disabling circuits within the device which can be disabled while not in use, while maintaining other systems in operable status for battery power conservation.

16. A device as defined in claim **15**, wherein the microprocessor also includes circuitry shut down means for reducing power requirements of the circuitry on the battery power source down to a minimum circuitry operating level equal to the minimum operational power level of the microprocessor.

17. A device as defined in claim **16**, wherein the microprocessor also includes circuitry shut down means for reducing power requirements of the circuitry on the battery power source down to a minimum voltage level sufficient only to trigger the microprocessor to awaken the microprocessor to at least a minimum operating level.

18. A device as defined in claim **1**, wherein said housing is of sufficiently small dimensions so as to rest within a hand to enable fingers of the hand to simultaneously grip the housing while manipulating a switch means mounted thereon.

19. A record/playback device for use with a removable, interchangeable, flash memory recording medium which enables extended recording comparable with tape cassette dictating equipment, said device comprising:

a housing;

a microphone element coupled to the housing and configured to receive and process sound into electrical signals;

control circuitry coupled to the microphone element and including signal input circuitry, amplification circuitry, memory control circuitry, signal output circuitry and control logic circuitry for performing record and playback functional operations with respect to the electrical signals and other regulated components of the record/playback device;

said switch means coupled to the control circuitry for selecting the desired functional operations to be performed;

a receiving socket electrically coupled to the memory control circuitry and configured for electrical coupling with a recording medium which is capable of retaining recorded digital information for storage;

a flash memory module which operates as sole memory of the received processed sound electrical signals and is capable of retaining recorded digital information for storage in nonvolatile form;

a speaker coupled to the control circuitry for playback of recorded digital information; and

a power source coupled to the control circuitry for supplying electrical power to the device.

20. A device as defined in claim **19**, wherein the single input jack includes power sensing circuitry to sense a presence of a power input signal applied to the jack and to electrically switch off the speaker and associated circuitry.

21. A device as defined in claim **19**, wherein said power source includes a single input jack for alternately receiving

both an external AC/DC power plug and an earphone plug, said single input jack being coupled to the signal output circuitry to provide audio signal to the earphone plug when inserted within the single input jack.

22. A device as defined in claim **21**, wherein the power sensing circuitry includes (i) means for generating a voltage signal at the single input jack, (ii) means to transmit the voltage signal to a DC power input of the control circuit and (iii) means within the control circuit for maintaining an electrical connection with the speaker when the voltage signal is present.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 5,491,774
APPLICATION NO. : 08/229731
DATED : February 13, 1996
INVENTOR(S) : Norris et al.

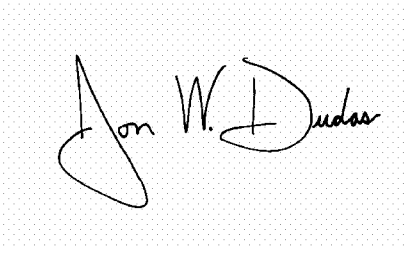
It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 11, line 4 in Claim 1, please delete the word "said"

Column 12, line 46 in Claim 19, please delete the word "said"

Signed and Sealed this

Twelfth Day of June, 2007



JON W. DUDAS
Director of the United States Patent and Trademark Office

US005491774C1

(12) EX PARTE REEXAMINATION CERTIFICATE (9179th)

United States Patent

(10) Number: US 5,491,774 C1
(45) Certificate Issued: Aug. 14, 2012

Norris et al.

(54) **HANDHELD RECORD AND PLAYBACK DEVICE WITH FLASH MEMORY**

(75) Inventors: **Elwood G. Norris**, Poway, CA (US); **Norbert P. Daberko**, Oceanside, CA (US); **Steven T. Brightbill**, San Diego, CA (US)

(73) Assignee: **e.Digital Corporation**, San Diego, CA (US)

Reexamination Request:
No. 90/011,302, Oct. 27, 2010

Reexamination Certificate for:

Patent No.:	**5,491,774**
Issued:	**Feb. 13, 1996**
Appl. No.:	**08/229,731**
Filed:	**Apr. 19, 1994**

Certificate of Correction issued Jun. 12, 2007.

(51) **Int. Cl.**
G10L 11/00 (2006.01)

(52) **U.S. Cl.** **704/270**; 369/24.01

(58) **Field of Classification Search** 704/270
See application file for complete search history.

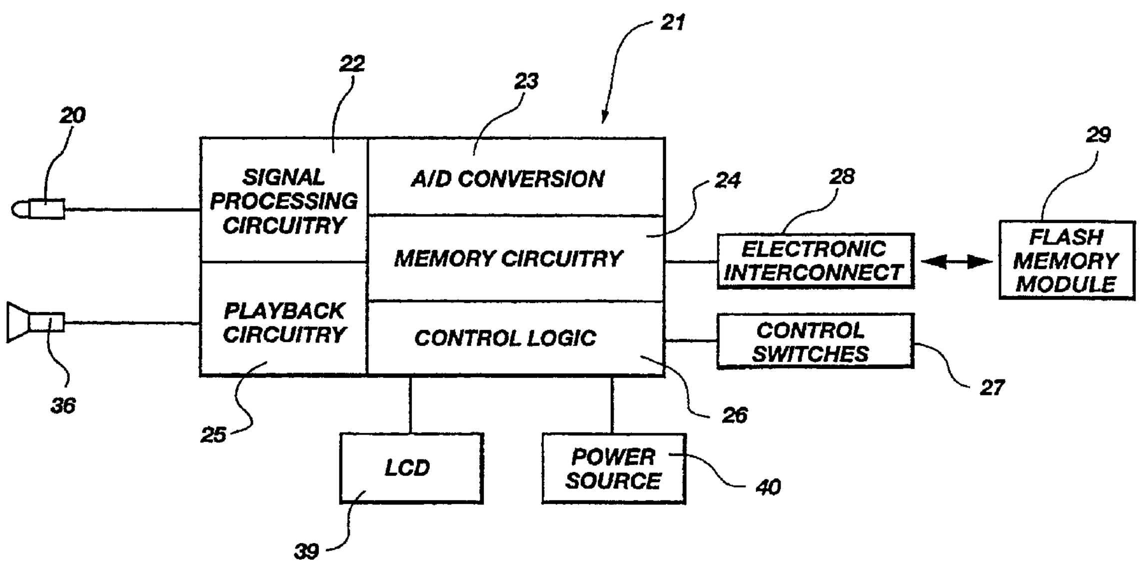
(56) **References Cited**

To view the complete listing of prior art documents cited during the proceeding for Reexamination Control Number 90/011,302, please refer to the USPTO's public Patent Application Information Retrieval (PAIR) system under the Display References tab.

Primary Examiner—Henry N Tran

(57) **ABSTRACT**

A record/playback device for use with a removable, interchangeable, flash memory recording medium which enables extended recording comparable with tape cassette dictating equipment. The device includes a housing, a microphone element, control circuitry and a switch mounted on the housing for selecting desired functional operations. A receiving socket is coupled to memory circuitry associated with the control circuitry and is configured for electrical coupling with a flash memory module adapted for receiving and retaining recorded digital information for storage in nonvolatile forme.



EX PARTE REEXAMINATION CERTIFICATE ISSUED UNDER 35 U.S.C. 307

THE PATENT IS HEREBY AMENDED AS INDICATED BELOW.

Matter enclosed in heavy brackets [ ] appeared in the patent, but has been deleted and is no longer a part of the patent; matter printed in italics indicates additions made to the patent.

AS A RESULT OF REEXAMINATION, IT HAS BEEN DETERMINED THAT:

Claims **1** and **19** are cancelled.

Claims **2** and **18** are determined to be patentable as amended.

Claims **3**, **4** and **5**, dependent on an amended claim, are determined to be patentable.

New claims **23-34** are added and determined to be patentable.

Claims **6-17** and **20-22** were not reexamined.

2. A device as defined in claim **[1]** *33*, comprises a flash memory module inserted within the receiving socket and which has the capacity to store digital information without need for ongoing power support.

18. A device as defined in claim **[1]** *33*, wherein said housing is of sufficiently small dimensions so as to rest within a hand to enable fingers of the hand to simultaneously grip the housing while manipulating a switch means mounted thereon.

23. A device as defined in claim 33 wherein the multiple transistors are further configured to optionally disable supply of electrical power to both the microphone element and the speaker between occurrences of record and playback functional operations and in response to control signals provided by the microprocessor.

24. A device as defined in claim 33 wherein the multiple transistors include, at least one transistor configured to enable and to disable supply of electrical power to the receiving socket; and at least one transistor configured to enable and to disable supply of electrical power to one or both of the microphone element and the speaker.

25. A device as defined in claim 33 wherein the multiple transistors are configured to optionally disable supply of electrical power to the speaker in response to control signals provided by the microprocessor.

26. A device as defined in claim 33, wherein the microphone element is coupled to a portion of the amplification circuitry;

wherein the speaker is coupled to a different portion of the amplification circuitry; and

wherein enabling and disabling supply of electrical power to the microphone element includes enabling and disabling supply of electrical power to the portion of the amplification circuitry coupled to the microphone element; and

wherein enabling and disabling supply of electrical power to the speaker includes enabling and disabling supply of electrical power to the portion of the amplification circuitry coupled to the speaker.

27. A device as defined in claim 33 further including:

a DSP;

wherein the multiple transistors are further configured to enable supply of electrical power to the DSP, during record and playback functional operations and in response to control signals provided by the microprocessor, and to disable supply of electrical power to the DSP between occurences of record and playback functional operations and in response to control signals provided by the microprocessor.

28. A device as defined in claim 34 wherein the multiple transistors are further configured to optionally disable supply of electrical power to both the microphone element and the speaker between occurrences of record and playback functional operations and in response to control signals provided by the microprocessor.

29. A device as defined in claim 34 wherein the multiple transistors include, at least one transistor configured to enable and to disable supply of electrical power to the flash memory module; and

at least one transistor configured to enable and to disable supply of electrical power to one or both of the microphone element and the speaker.

30. A device as defined in claim 34 wherein the multiple transistors are configured to optionally disable supply of electrical power to the speaker in response to control signals provided by the microprocessor.

31. A device as defined in claim 34, wherein the microphone element is coupled to a portion of the amplification circuitry;

wherein the speaker is coupled to a different portion of the amplification circuitry; and

wherein enabling and disabling supply of electrical power to the microphone element includes enabling and disabling supply of electrical power to the portion of the amplification circuitry coupled to the microphone element; and

wherein enabling and disabling supply of electrical power to the speaker includes enabling and disabling supply of electrical power to the portion of the amplification circuitry coupled to the speaker.

32. A device as defined in claim 34 further including:

a DSP;

wherein the multiple transistors are further configured to enable supply of electrical power to the DSP during record and playback functional operations and in response to control signals provided by the microprocessor, and

to disable supply of electrical power to the DSP between occurences of record and playback functional operations and in response to contol signals provided by the microprocessor.

33. A record/playback device for use with a removable, interchangeable, flash memory recording medium which enables extended recording comparable with tape cassette dictating equipment, said device comprising:

a housing;

a microphone element coupled to the housing and configured to receive and process sound into electrical signals;

control circuitry coupled to the microphone element and including signal input circuitry, amplification circuitry,

analog-to-digital conversion circuitry, memory control circuitry, signal output circuitry and control logic circuitry, which includes a microprocessor coupled to switch circuitry, for performing record and playback functional operations with respect to the electrical signals and other regulated components of the record/playback device;

switch means coupled to the control circuitry for selecting the desired functional operations to be performed;

a receiving socket electrically coupled to the memory control circuitry and configured for electrical coupling with a flash memory module which operates as sole memory of the received processed sound electrical signals and is capable of retaining recorded digital information for storage in nonvolatile form;

a speaker coupled to the control circuitry for playback of recorded digital information; and

a power source coupled to the control circuitry for supplying electrical power to the device;

wherein the power source is coupled to the switch circuitry; and

wherein the switch circuitry includes multiple transistors configured, to enable supply of electrical power to the receiving socket and to enable at least one of the microphone element and the speaker during record and playback functional operations and in response to contol signals provided by the microprocessor, and to optionally disable supply of electrical power to the receiving socket and to optionally enable supply of electrical power to at least one of the microphone element and the speaker between occurrences of record and playback functional operations and in response to control signals provided by the microprocessor.

34. A record/playback device for use with a removable, interchangeable, flash memory recording medium which enables extended recording comparable with tape cassette dictating equipment, said device comprising:

a housing;

a microphone element coupled to the housing and configured to receive and process sound into electrical signals;

control circuitry coupled to the microphone element and including signal input circuitry, amplification circuitry, analog-to-digital conversion circuitry, memory control circuitry, signal output circuitry and control logic circuitry, which includes a microprocessor coupled to switch circuitry, for performing record and playback functional operations with respect to the electrical signals and other regulated components of the record/playback device;

switch means coupled to the control circuitry for selecting the desired functional operations to be performed;

a receiving socket electrically coupled to the memory control circuitry and configured for electrical coupling with a recording medium which is capable of retaining recorded digital information for storage;

a flash memory module which operates as sole memory of the received processed sound electrical signals and is capable of retaining recorded digital information for storage in nonvolatile form;

a speaker coupled to the control circuitry for playback of recorded digital information; and

a power source coupled to the control circuitry for supplying electrical power to the device;

wherein the power source is coupled to the switch circuitry; and

wherein the switch circuitry includes multiple transistors configured, to enable supply of electrical power to the flash memory module and to enable at least one of the microphone element and the speaker during record and playback functional operations and in response to control signals provided by the microprocessor, and to optionally disable supply of electrical power to the flash memory module and to optionally enable supply of electrical power to at least one of the microphone element and the speaker between occurrences of record and playback functional operations and in response to control signals provided by the microprocessor.

* * * * *

Form 19

FORM 19. Certificate of Compliance With Rule 32(a)

CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATION, TYPEFACE REQUIREMENTS, AND TYPE STYLE REQUIREMENTS

1. This brief complies with the type-volume limitation of Federal Rule of Appellate Procedure 32(a)(7)(B) or Federal Rule of Appellate Procedure 28.1(e).

☑ The brief contains [*12,332*] words, excluding the parts of the brief exempted by Federal Rule of Appellate Procedure 32(a)(7)(B)(iii), or

☐ The brief uses a monospaced typeface and contains [*state the number of*] lines of text, excluding the parts of the brief exempted by Federal Rule of Appellate Procedure 32(a)(7)(B)(iii).

2. This brief complies with the typeface requirements of Federal Rule of Appellate Procedure 32(a)(5) or Federal Rule of Appellate Procedure 28.1(e) and the type style requirements of Federal Rule of Appellate Procedure 32(a)(6).

☑ The brief has been prepared in a proportionally spaced typeface using
[*MICROSOFT WORD VERSION 14.3.6*] in
[*TIMES NEW ROMAN, FONT SIZE 14*], or

☐ The brief has been prepared in a monospaced typeface using
[*state name and version of word processing program*] with [
[*state number of characters per inch and name of type style*].

/s/Pamela C. Chalk
(Signature of Attorney)

Pamela C. Chalk
(Name of Attorney)

Counsel for Plaintiff/Appellant e.Digital Corporation
(State whether representing appellant, appellee, etc.)

4/24/2014
(Date)

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UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

E.DIGITAL CORPORATION
V.
ZTE CORPORATION, ZTE (USA) INC., PANTECH WIRELESS, INC., AKA PANTECH NORTH AMERICA, PANTECH CO. LTD., AND WOODMAN LABS, INC., DBA GOPRO

CASE NUMBERS: 2014-1239, 1242, 1243

CERTIFICATE OF SERVICE

It is hereby certified that a true and correct copy of the following document was caused to be served on the attorneys of record a the following address as indicated on April 24, 2014 via served by electronic means via the Court's CM/ECF system on all counsel registered to receive electronic notices and regular mail:

1. **CORRECTED PRINCIPAL BRIEF FOR PLAINTIFF-APPELLANT E.DIGITAL CORPORATION; and,**

2. **CERTIFICATE OF SERVICE.**

VIA EMAIL AND REGULAR MAIL	
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Barry W. Graham, Esq.; Yanbin Xu, Esq. Xiaodan Wang, Esq. Finnegan, Henderson, Farabow, Garrett & Dunner, LLP 901 New York Avenue, NW, Washington, DC 20001-4413 Tel: (202)408-4017; Fax: 202.408.4400 And: ali@pattersonlawgroup.com Allison H. Goddard, Esq. PATTERSON LAW GROUP 402 West Broadway, 29th Floor San Diego, California 92101 Tel:(619)398-4760; Fax:(619)756-6991	ZTE Corporation; and, ZTE (USA) Inc.
d.james.pak@bakermckenzie.com matt.dushek@bakermckenzie.com D. James Pak, Esq. Matthew S. Dushek, Esq. Baker & Mckenzie LLP Two Embarcadero Center, 11th Floor San Francisco, CA 94111 Tel: 415.592.3209; Fax: 415.576.3099 And: kevin.obrien@bakermckenzie.com yi.fang@bakermckenzie.com Kevin O'Brien, Esq.; Yi Fang, Esq. Baker & McKenzie LLP 815 Connecticut Ave, NW Washington, DC 20006 Tel: 202.452.7000; Fax: 202.452.7074	Attorneys and Counsel of Record for Defendants/Appellees: Pantech Wireless, Inc. aka Pantech North America; Pantech Co. Ltd.

Case: 14-1239 Document: 26-3 Page: 24 Filed: 04/24/2014 (181 of 181)

I declare that I am a member of the bar of this Court. I declare under penalty of perjury of the laws of the United States of America that the foregoing is true and correct.

HANDAL & ASSOCIATES

Dated: April 24, 2014

By: /s/Pamela C. Chalk

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